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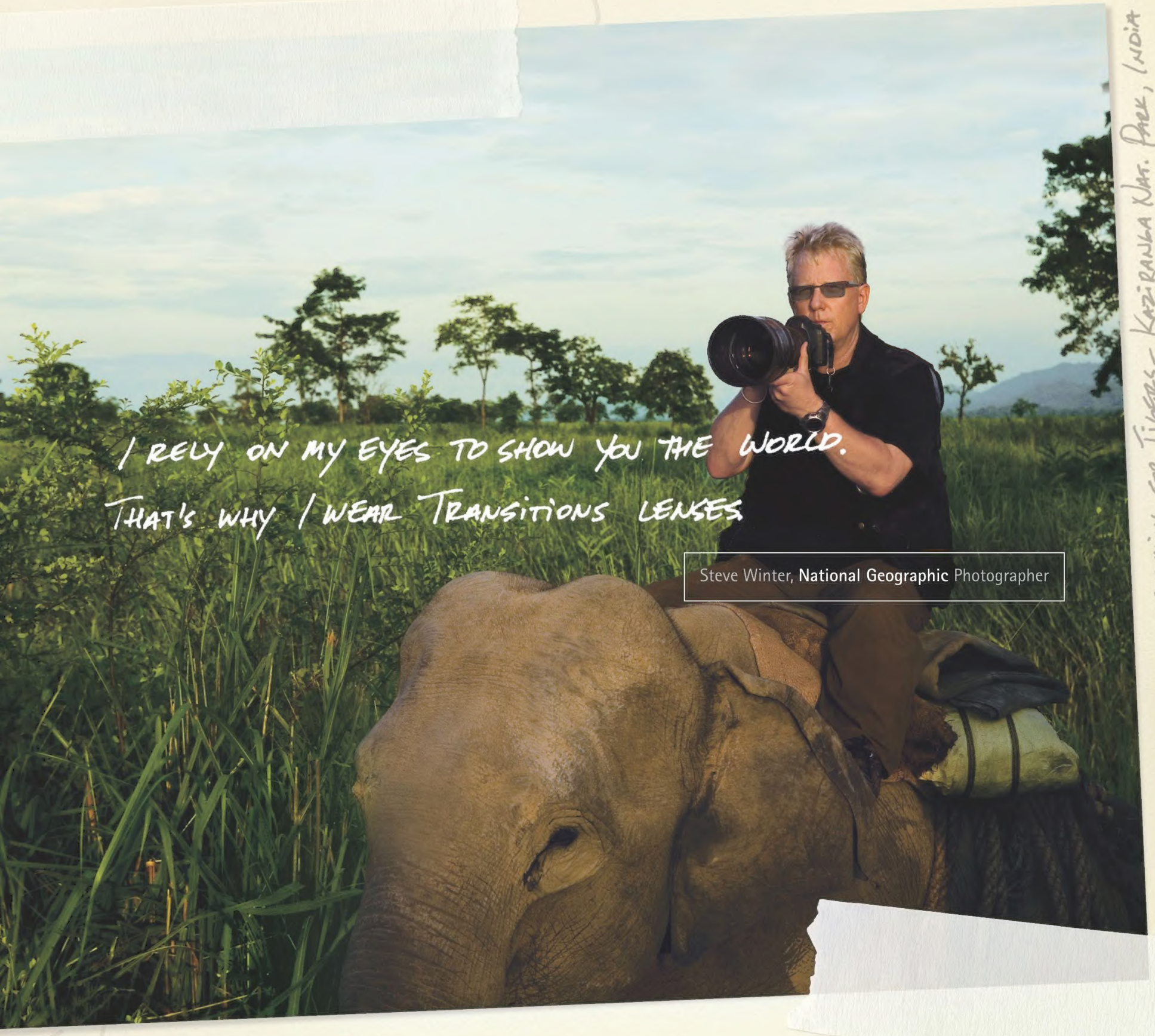
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PHOTOGRAPH BY PAUL NICKLEN / NGS IMAGE COLLECTION

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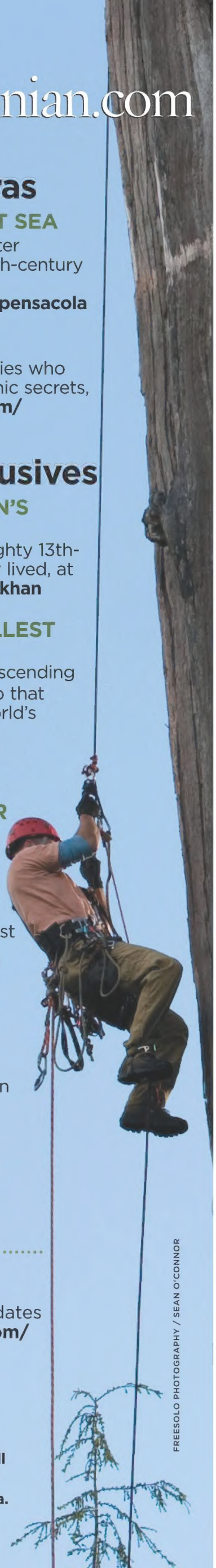

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Climber Brian French ascends a 178-foot-tall Nolan Creek cedar in the Olympic Peninsula.

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FROM THE EDITOR

Outliers

Big Sur and George Koval, atomic spy

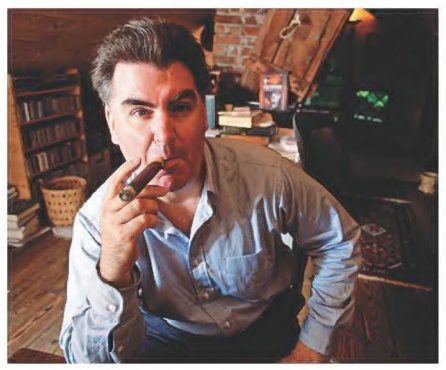
BY CAREY WINFREY

JAMES CONAWAY FIRST VISITED BIG SUR when he was a writing fellow at Stanford University in 1963. "I was completely floored by the beauty and the separateness of the place," he recalls. "It was unlike anything I had ever seen. The light there is incredible, to say nothing of the scenery. It seems to reduce life to essentials; none of the distractions that we think of in an American landscape. Poor TV reception. It's hard to make cellphone calls. You're sort of thrown onto yourself." Since that first visit, the author and former editor of *Preservation* magazine has gone back a dozen or so times, but, he says, in all those visits he got to know only a few of the people who call Big Sur home. "I'd always wanted to know who lived up these canyons. It was very difficult if you didn't know your way around or didn't have access. So I had this romantic notion about who might live there and what they might do. It was this assignment that made me go up and talk to them. It was great because they all lived up to what I imagined they'd be like." His story, "California Dreamin'," begins on page 56.

Conaway: Thrown onto himself

FORMERLY A MUSIC CRITIC for the *San Francisco Examiner* and *Time* magazine, Michael Walsh writes novels and screenplays about foreign intrigue and espionage. So when senior editor Tom Frail read about an American spy who played a key role in the Soviet Union's acquisition of the atom bomb, he asked Walsh to look into it. And quite a tale—"Iowa-born, Soviet-trained," page 40—it turned out to be. In Sioux City, Iowa, where the spy—George Koval—was born, Walsh found Koval's high-school yearbook. He turned up Koval's fellow students at the City College of New York—including one in suburban Washington, D.C., who re-established contact with Koval after a 50-year silence and kept in touch with him through the last five years of his life. Walsh even tracked down Koval's family in Moscow. "It was quite a long and unexpected journey," says Walsh. And a fascinating one. "Koval was an American citizen. He was a huge baseball fan. Yet when he and his parents moved to Russia, he was recruited as a spy and sent back to the United States. He lived this double life. He believed in the Soviet system, and yet I think he was torn between his American-ness and his Russian-ness. And at the time they were not totally incompatible, because America and the Soviet Union were Allies. It was a difficult moral choice for him. We can't endorse the choice he made, but it was one he had to live with for the rest of his life."

Walsh: An unexpected journey



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LETTERS READERS RESPOND TO THE **MARCH** ISSUE

Declaring Route 66 an endangered site and a cultural treasure ["The Mother Road"] in the same breath as your other "must-see" sites and enshrining motels on this ordinary highway as national trusts defies logic. Goodness! It's not even one of the better drives in the United States.

RICK STUBER, CRESWELL, OREGON

SPIRITED DEBATE

THANK YOU for your great research on endangered cultural treasures. My comments are about the Church of the Nativity in Bethlehem ["Holy War"]. The way clerics of the Greek Orthodox, Armenian Orthodox and Franciscan order of the Roman Catholic Church are behaving is childish and irresponsible. They are fighting over who scrubs a step, who fixes the roof, who cleans a chandelier—and they call themselves Christians? If anyone volunteers to do it, give the guy a rag and cheer him on. But they would rather take the ladder away and throw a stone instead of offering a helping hand. People are starving outside church doors, and all they worry about is who owns this or that piece of a stone building.

IVAN PARENTI
ROCKLIN, CALIFORNIA

TO DISRESPECT the Hill of Tara by building a motorway through archaeologically rich areas nearby ["Where Kings Once Tread"] is to slight the history of the Irish people; it slights our emancipation from slavery and serfdom as well as the heroes who sacrificed themselves for Irish dignity and freedom. The current economic recession, caused by the same types of greedy people who conceived of and financed this abominable road, is the obvious indicator of where this road will lead—to bankruptcy of the soul and nation.

PAUL BRADLEY
GALWAY, IRELAND

THE STATEMENT that Tasmanian tigers went extinct more than 3,000 years ago ["Written in Stone"] is inaccurate. They probably went extinct on mainland Australia close to that time but persisted at least into the 20th century on the island of Tasmania. The animals' demise, like that of the threatened cultural "treasures" in your articles, also reflects the actions of modern human beings.

BOB HOWE
EAST MACHIAS, MAINE

UNEASY IN NORTHERN IRELAND

MY WIFE, TAVIA, and I spent two weeks in Ireland in 2007 and came away from Derry with the feeling that if you hold a people down long enough, they will fight for what they've lost ["Getting Past the Troubles"]. We were amazed there were places in Derry that our 35-year-old guide had never seen because they were in Protestant areas. And if William Moore of the Loyalist group Apprentice Boys really wants to reach out to the Catholics of Derry, he should start a campaign to point those cannons he is pictured with at the ground instead of at the largely Catholic homes surrounding the city. Everyone knows they are ornamental at this point, but when you look up and see rows of cannons pointed at you, it still looks ominous and threatening.

BRYAN MURPHY AND TAVIA JAMISON
ST. LOUIS, MISSOURI

AN EXCELLENT article by Joshua Hammer—and timely! After I read it there was news about the killing of British soldiers in Ireland and the murder of Irish policemen. Denis Bradley, quoted by Hammer, was right in saying, "We have moved past armed conflict and civil unrest. But, we haven't moved past the political issues on which these things had their basis."

CAOIMHIN GINTY
MORGAN HILL, CALIFORNIA

EXIT STRATEGIES

YOUR ARTICLE about home funerals ["Which Way Out"] was completely out of place in SMITHSONIAN. It added little to my existing knowledge and did not provide a cultural awakening. Nor did it appeal to my sense of adventure and exploration. It belongs in the news of the weird.

KEITH AHERN
PADUCAH, KENTUCKY

"WHICH WAY OUT" provides an important service by letting people know that home funerals are a legal option in almost every state. Caring for and spending more time with a deceased loved one at home affords a positive sense of closure and connection for families. As stated, it can also save money on a service that has become outrageously expensive.

REBECCA THOMAS
SANTA ROSA, CALIFORNIA

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800-THE ALAMO

Dancing for Mao

A photograph of a 5-year-old girl made her famous in China—and haunted the man who took it

BY JENNIFER LIN

LI ZHENSHENG heard singing followed by a burst of applause. Following the sounds led the photojournalist to a young girl with unusually fair hair tied in ponytails, dancing with her arms upraised and surrounded by smiling, clapping soldiers.

They were at the Red Guard Stadium in Harbin, in northern China, along with hundreds of thousands of Communist Party cadres, workers, peasants and other soldiers who had gathered for a marathon conference on the teachings of Chairman Mao Zedong. This was 1968, nearly two years into the Cultural Revolution, Mao's attempt to purge Chinese society of supposed bourgeois elements and escalate his own cult of personality. The conferees seemed to be trying to outdo one another in their professions of love for their nation's leader.

On April 28, the last day of the 23-day gathering, a 5-year-old kindergartner was performing the "loyalty dance," as it was known. In front of the soldiers in the stadium stands, she skipped in place and sang:

No matter how close our parents are to us, they are not as close as our relationship with Mao

How absurd, thought Li, who was then a photographer for the *Heilongjiang Daily*, a party newspaper. The girl certainly was lovely and eager to please, but the photojournalist found the excess of zeal discomforting. "They had to love him to the extreme," says Li, now 68 and retired.

In the cult of Mao, everyone was expected to perform the loyalty dance—from miners to office workers to toddlers to old ladies whose feet had been bound. "The movements were always toward the sky—that way you could show how respectful you were to Mao," Li says. "Everyone knew how to dance it."

Li shot six photographs of the scene, of which the

The "loyalty dance" was a fixture of China's Cultural Revolution, and Kang Wenjie's performance at a giant Maoist teach-in was boffo.

"I was merely a naive child who knew nothing. How could I become that well known after a dance?"

Heilongjiang Daily published two. When the girl—instantly known as "Little Yellow Hair"—returned home to Dedu County (now Wudalianchi City), people came to the roadside to cheer her for bringing fame and honor to their town.

Li kept on taking pictures—including those he called his "negative negatives": Red Guards shaving the head of a provincial governor because his hairline was too similar to Mao's; security forces shooting, point-blank, two accused counterrevolutionaries for publishing a flier the government deemed too pro-Soviet. These were scenes that China did not want the rest of the world—or, for that matter, its own people—to see.

In the darkroom, Li would separate potentially dangerous negatives and hide them in his desk. When the time seemed right he would take them home for safer keeping, having cut a hiding space the size of a book in the floorboards of his one-room apartment.

Even after the Cultural Revolution effectively ended with Mao's death, at age 82, in 1976, Li was wary about showing his more incendiary work. In 1980 he left the newspaper to teach at Beijing University's International Political Science Institute. In 1988, the organizers of a nationwide photography competition—what Li says was China's first such undertaking as it opened up to the outside world—encouraged him to enter some of his pictures.

Then-Defense Minister Zhang Aiping, who had been imprisoned for years during the Cultural Revolution, greeted the exhibition with the remark, "Let history tell the future." Li's pictures (which did not include "Little Yellow Hair") won the grand prize.

"The authorities were shocked by the violence depicted in Li's images of public humiliations inflicted upon dignitaries and by the photographs of the executions," says Robert Pledge, co-founder of New York City photo agency Contact Press Images, which would collaborate with Li in publishing his life's work in the book *Red-Color News Soldier*. (Images from the book have been shown in ten countries, with exhibits scheduled for Hungary, Australia and Singapore later this year.)

For his part, Li says he remained haunted by the people in his photographs. He wanted to know what had become of those who had survived; he wanted to connect with the families of those who hadn't. In 1998, he wrote an article for his former newspaper under the headline, "Where Are You, Little Girl Who Performed the Loyalty Dance?"

A week later, he heard from Kang Wenjie.

During the Cultural Revolution, Li (left: in 1967) hid his more incendiary work. Later, he sought out some people he had photographed (above: Kang in 2006) to see how they had fared.

Kang still lived in Wudalianchi City, not far from the Russian border. She made a living selling wholesale clothes to Russian traders. She was married and had a 12-year-old son.

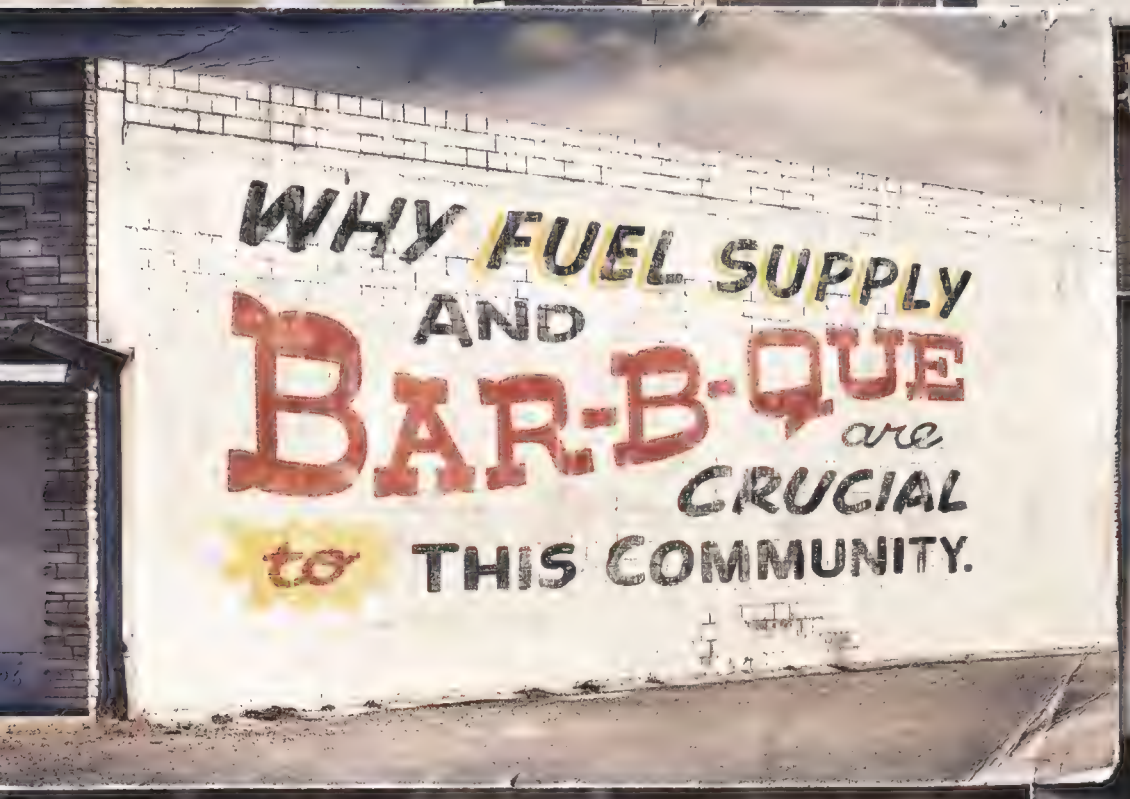
Kang told Li she had been picked to represent her city those many years ago because she could sing and dance, but she hadn't even known that the dance she performed that day had a name. After Li told her about it, she used the very word in her reaction that he had thought in 1968: *ke xiao*—absurd. "I was merely a naive child who knew nothing," Kang, now 46, says today. "How could I become that well known after a dance?"

Li says the story reminds him of the fable of the naked emperor's new clothes—here was a child who couldn't even read Mao's writings being held up as a model of Maoist thought. "During the Cultural Revolution," Li says, "no one dared to tell the truth."

Even today, the truth about those dark days remains a delicate subject. Li's book has been published in six languages, but it is not available in China.

JENNIFER LIN *covered China from 1996 to 1999 for the* Philadelphia Inquirer, *where she remains a reporter.*

PP. 10-11, 12 LI ZHENSHENG / CONTACT PRESS IMAGES (3)



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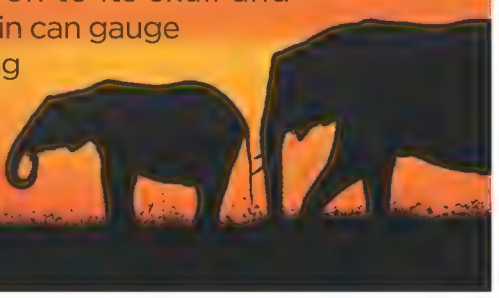
WILD THINGS

LIFE AS WE KNOW IT

BY AMANDA BENSEN, JOSEPH CAPUTO, T.A. FRAIL, MEGAN GAMBINO AND SARAH ZIELINSKI

HOW ELEPHANTS CALL LONG-DISTANCE

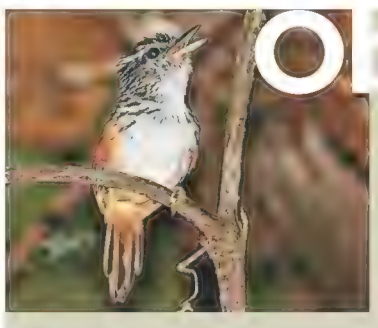
Some elephant calls are so deep in pitch they shake the ground. An elephant miles away can detect those seismic signals with sensory cells in all four feet. But a Stanford ecologist working in Namibia now says the elephant may prefer to "hear" the message in a different way: the ground vibrations travel directly from its front feet through its leg and shoulder bones and on to its skull and middle ear. An elephant brain can gauge where a seismic call is coming from by comparing the timing of the signals that the front feet receive.



YOUNG DINOSAURS JOINED GANGS

More than 20 young dinosaurs died together 92 million years ago after being trapped in mud in what is now Inner Mongolia. The fossilized remains of the ostrich-like ornithomimids are rare evidence of social behavior, say scientists from Montana State University and elsewhere. No adult bones were found at the site, suggesting that the young plant-eaters traveled on their own in herds.

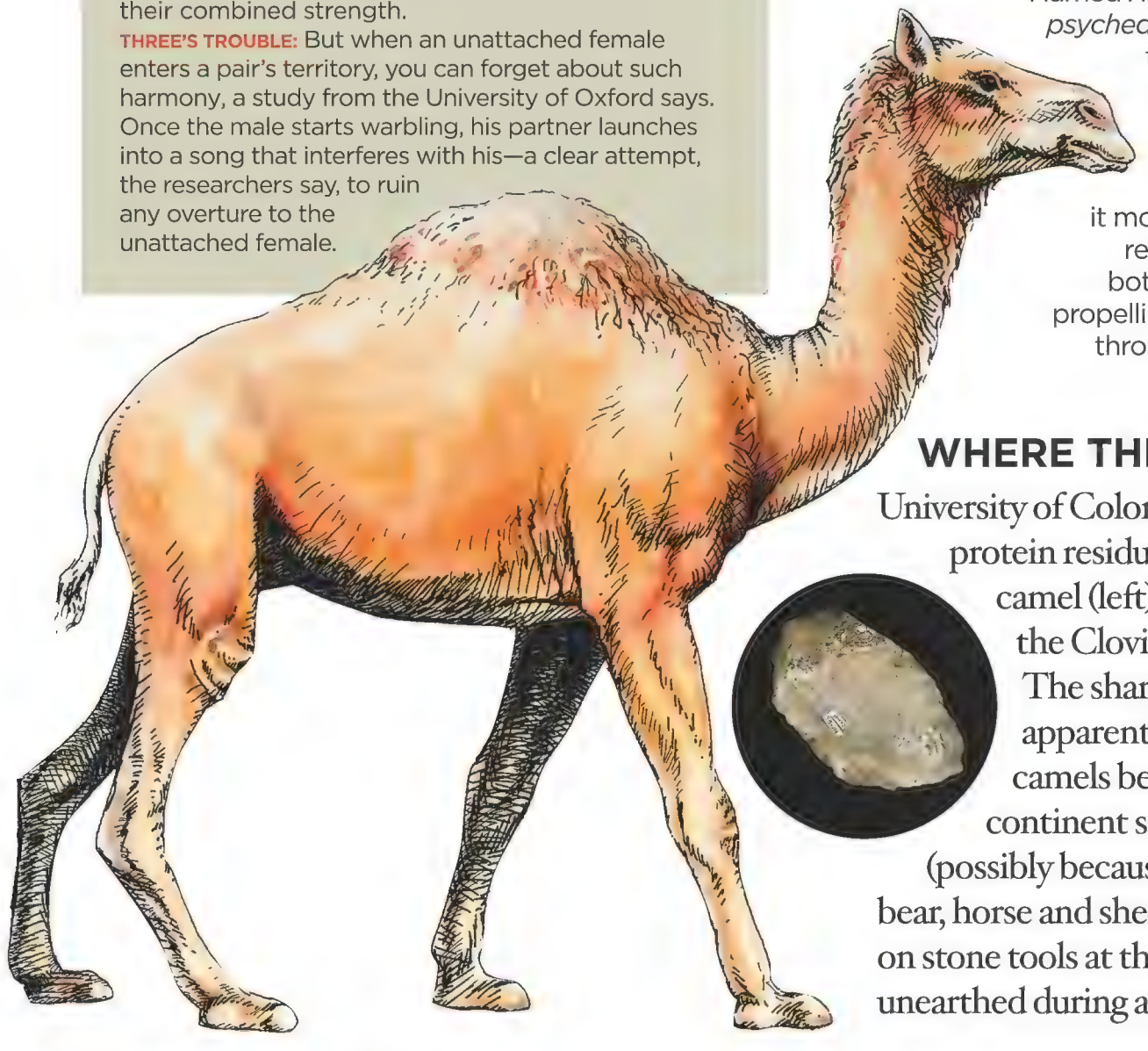
Observed



NAME: The Peruvian warbling antbird, *Hypocnemis peruviana*.
TWO'S COMPANY: Antbirds live in pairs. They defend their territories from other antbirds by singing complex duets to signal their combined strength.
THREE'S TROUBLE: But when an unattached female enters a pair's territory, you can forget about such harmony, a study from the University of Oxford says. Once the male starts warbling, his partner launches into a song that interferes with his—a clear attempt, the researchers say, to ruin any overture to the unattached female.

PSYCHEDELIC FISH ON GROOVY TRIP

FOUND: A new species of "hopping" fish off the coast of Indonesia. Named *Histiophryne psychedelica* for its trippy appearance, the three-inch-long fish has baggy skin and zebra-like stripes radiating from its forward-facing eyes. But what makes it unique is the way it moves, say University of Washington researchers. The fish hops along the bottom of the sea on leg-like fins, jet-propelling itself forward by flushing water through little gill openings on its sides.



WHERE THE CAMELS ROAMED

University of Colorado scientists have found protein residue from the North American camel (left) on stone tools (inset) from the Clovis era about 13,000 years ago. The sharp instruments were apparently used for butchering; the camels became extinct on the continent some 11,000 years ago (possibly because of overhunting). Traces of bear, horse and sheep proteins were also detected on stone tools at the northern Colorado cache, unearthed during a home-landscaping project.

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Finding Feisty Fungi

On treeless Antarctica, wood fungus is feasting on polar exploration relics

BY EMILY STONE

SINCE THERE ARE 100,000 known fungus species, it might not seem all that remarkable that Robert Blanchette may have discovered three new ones. But he found the fungi where no one believed they existed—Antarctica—and he says they're feasting on historic treasures—the wooden huts built a century ago by legendary British explorers Ernest Shackleton and Robert Scott.

The three small buildings, constructed during Shackleton's and Scott's efforts to explore Antarctica and reach the South Pole between 1901 and 1915, are considered invaluable links to the "heroic age" of polar exploration, when eight nations launched 15 Antarctic expeditions between 1895 and 1917. The huts, among the only remaining structures from humanity's first known attempts to inhabit the continent, are overseen by the New Zealand-based Antarctic Heritage Trust, and scientists, ecotourists and history buffs visit the structures, where they marvel at the artifacts—such as newspaper clippings, cans of food and clothing—left behind by Shackleton's and Scott's expedition members. When conservationists noticed signs of decay in the huts—rotting planks and wooden crates covered with black speckles—they knew who to consult.

Blanchette, a 57-year-old plant pathologist at the University of Minnesota, is a leading specialist in the study of how fungi affect archaeological artifacts. Originally focused on forest diseases—such as root rot and white pine blister rust—he raised his profile in 1988 when he delivered a paper describing the fungal decay of wooden relics from an excavated Native American village in Washington State. "I realized right away that I wanted to enlist him," recalls Elizabeth Simpson who, in 1981, had established a project at the University of Pennsylvania for studying and preserving royal wooden furniture from Gordion, Turkey. "I was entranced by this esoteric field of wood pathology that I had never thought about before." In the decades that followed, Blanchette studied wooden remains from the Atlantic Ocean, from Asian, African and North American deserts and from both poles. Thousands of samples—from millimeter-long slivers of a Turkish tomb that may have belonged to King Midas to a fist-size chunk from a sunken Civil War battleship—are stashed in more than a dozen freezers in his lab on the university's St. Paul campus. In

GALEN ROWELL / CORBIS

Explorer Robert Scott built a hut (above) at Cape Evans during his 1910-13 expedition; all five members of his team perished.

each instance, his job is to identify fungi that might be damaging the artifacts and recommend ways to stop it.

"He is the best guy in the world to go to," says Robert J. Koestler, director of the Smithsonian Institution's Museum Conservation Institute, who enlisted Blanchette's help in the 1990s when Koestler was a research scientist at the Metropolitan Museum of Art.

On the day I visited Blanchette's lab, he was peering at a computer screen bearing images of rotted wood cells magnified up to 8,000 times by an electron microscope. One picture zoomed in on a dime-size piece of wood; it revealed white, oblong circles smushed together and pocked with holes, the signature of a soft-rot fungus. "Oh jeez, isn't that beautiful," Blanchette said.

That's not how most people think of fungi—often repulsive organisms that include mushrooms, molds, mildews and rusts. Unlike plants, fungi have no chlorophyll and function as parasites, living off plants or scavenging the remains or detritus of other life-forms. A fungus that attacks wood (called lignicolous) typically sustains itself by secreting enzymes that break down lignin, cellulose and other tough polymers into simpler molecules that serve as nutrients.

Before Blanchette, no mycologist had documented any wood-degrading fungi native to Antarctica. After all, fungi generally prefer warmth, and no trees have grown on the frozen continent for millions of years. But when Blanchette compared the DNA of the fungi discovered at the explorer huts with a database of known species, he found three types of fungi that were clearly distinct from any temperate species that the explorers or later visitors might have brought with them.

It appears, then, that the three huts are being attacked, in part, by native species. Scott, who commanded the first British-led expedition in 1901-4, built the oldest of the three at McMurdo Sound. "The discomfort of the hut was a byword on the Expedition," recalled Shackleton, who served as Scott's lieutenant on the ship *Discovery*. The group came within 530 miles of the South Pole, but had to be rescued by ships dispatched by the British Admiralty when *Discovery* got trapped in ice.

Shackleton had higher regard for the base camp that his own 1907-9 expedition erected at Cape Royds, 23 miles north of Scott's hut. "Here the whole shore party lived in comfort through the winter of 1908," he wrote. In early 1909, Shackleton's party left the shelter for the 850-mile trek to the pole but stopped 97 miles short when they grew low on rations. (A Norwegian expedition led by Roald Amundsen nearly three years later would be the first to reach the pole.)

To confirm what types of fungi are feasting on Antarctica's huts, Robert Blanchette (top) grows specimens on pine and birch wafers (bottom) to study the patterns of wood decay.

Scott built the third hut at Cape Evans during his ill-fated 1910-13 expedition, when all five members of his team perished from cold and starvation. It would prove crucial for Shackleton in 1915, when some of his men became stranded. "The hut became the permanent living quarters for the ten marooned men," Shackleton wrote.

Blanchette and his team have traveled to Antarctica each of the past nine years to collect hut samples and test ways of preserving them. Back in the lab, the researchers put bits of infected wood into petri dishes filled with a nutrient-rich gel that coaxes the fungi out of the wood and encourages growth.

Blanchette then transplanted the growing samples onto pieces of pine, birch and spruce—woods used in the Antarctic huts—to see if the lab wood would similarly decay. Then, comparing DNA from the Antarctic samples of fungi with that of known species, Blanchette and his team deduced they had found three new species. He will carry out additional taxonomic study to make sure.

In any event, Blanchette says he's delighted to be studying some "really tough fungi," capable of eking out an existence in one of the planet's most inhospitable environments. He speculates the fungi lived off penguin guano, moss, lichen and material in the soil until the explorers arrived and provided a veritable feast—the first wood Antarctica had seen in eons.

Blanchette and his team have advised the Antarctic Heritage Trust about protecting the huts. Because fungi need moisture, the researchers recommended clearing out a century's worth of accumulated ice under Shackleton's hut (revealing stores of whiskey in the process) and removing 100 tons of snow and ice that accumulate annually behind Scott's hut at Cape Evans.

Blanchette, meanwhile, made another observation: one species of Antarctic fungus appears to be feasting on petroleum spilled from leaky fuel containers that Scott left behind at Cape Evans. If so, Blanchette speculates that the fungus—or enzymes extracted from it—could be put to work digesting petroleum spills.

That's what Blanchette says he loves about his work—the unexpected developments and the surprising resilience of life. No matter the environment, he says, "we're always finding great fungi."

EMILY STONE *is a Chicago-based writer who spent two summers in Antarctica.*

LAYNE KENNEDY (2)

HARBOR HOPPING IN MAINE

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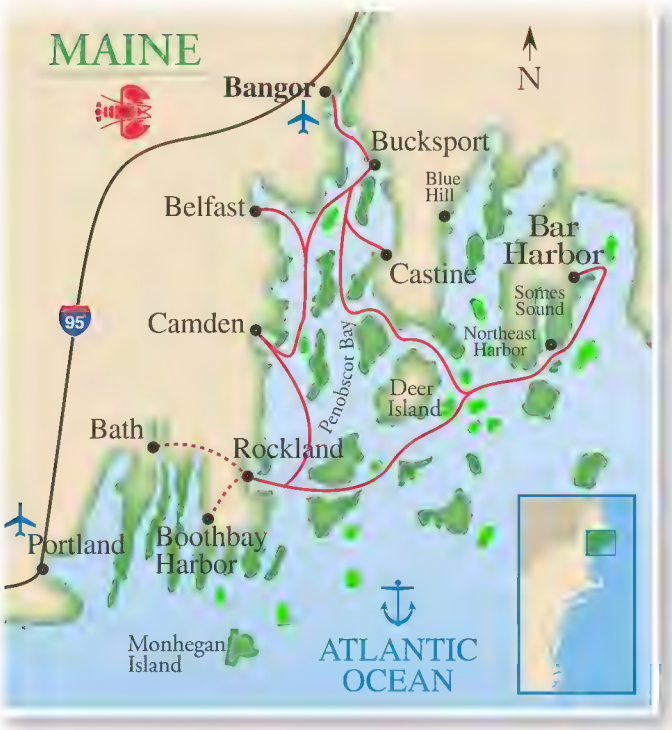
BOOTHBAY HARBOR ✯ BELFAST ✯ CASTINE ✯ BANGOR



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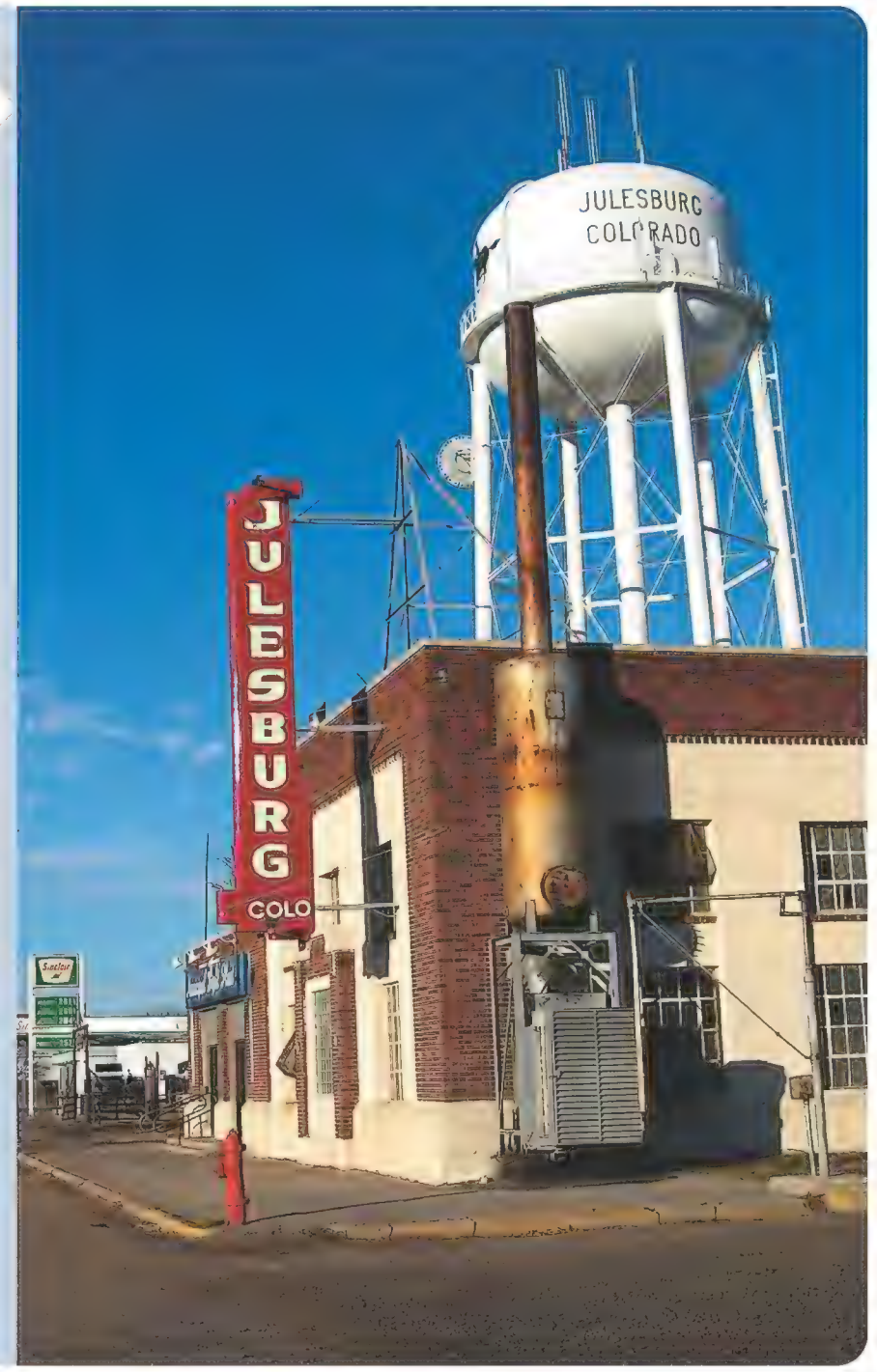
YOUR KIND OF TOWN

BY JANINE BAUGHN • JULESBURG, COLORADO

I GREW UP IN A SMALL FARMING and ranching town of 1,200 people in eastern Colorado in the mid-1960s, when you could ride your bike all day, swim in the irrigation ditches in summer and ice-skate on the South Platte River in winter. We had a main street where the two wonderful drugstores, Spears Rexall Pharmacy and Corner Drugstore, had real soda fountains. Tin-roof sundaes, cinnamon Cokes in paper fountain cups, lime phosphates. A five-and-dime store around the corner, where I would spend an hour picking out candy and wondrous items with my 25-cent weekly allowance. Every summer we had a county fair where all the 4-H kids entered their livestock or sewing and knitting projects, as I did. My friends and I would buy a new cowgirl hat every year to be worn for that one occasion. Julesburg still pulls at my heartstrings because it was truly a time of innocence and wonder.

Submit a **Your Kind of Town** story or photograph and find others at Smithsonian.com/yourkindoftown



WANTED: COURAGEOUS MEN

This monstrous situation is made even more hideous by indifference and inaction. Why is it that women are largely left to confront this evil? Men from all walks need to step up and confront this at the grass-roots level because, let's face it, it's our fellow males who are the root of it all as abusers and customers. Where are the men of courage? **—Michael McWilliams,** of Stockholm, Sweden, on efforts by Somaly Mam (right) to rescue child sex slaves Smithsonian.com/somalymam

HERB YOUR ENTHUSIASM

I am stunned that there are people who don't like cilantro. You can't have real Tex-Mex cuisine without it. That's crazy. Next you'll be claiming there are people who don't like strawberries and chocolate, or babies and puppies. **—Barry Pyke,** of Lynn, Indiana, on "The Great Cilantro Debate," the Food & Think blog, Smithsonian.com/cilantro

PHOTO CONTEST EDITORS' PICK

"The swings were my favorite ride. I love the carefree sense of flight."

—April Bauknight, of St. Cloud, Florida, on her picture of the Osceola County Fair. Visit our Web site to submit a photo to the 7th annual contest.

BY THE NUMBERS

O SAY CAN YOU SING?

Should we have an easier-to-sing national anthem? What should it be? The poll closes May 15. The results so far:

Keep the Star-Spangled Banner	**50%**
This Land Is Your Land	**18%**
America the Beautiful	**18%**
My Country 'Tis of Thee	**7%**
God Bless America	**7%**

VOTE AT: Smithsonian.com/anthem

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THIS MONTH IN HISTORY

MAY ANNIVERSARIES

MOMENTOUS OR MERELY MEMORABLE

BY ALISON McLEAN

120 YEARS AGO
SEETHING TORRENT

Two days of record rains topple Pennsylvania's South Fork dam May 31, 1889, sending 20 million tons of water—"in which seethed houses, freight cars, trees and animals," a witness recalls—crashing into Johnstown, 14 miles downstream. The flood and ensuing fires kill more than 2,200 people. In its first foray into peacetime disaster relief, Clara Barton's American Red Cross comes to the aid of some 25,000 survivors.

80 YEARS AGO
GOLDEN OLDIE

Oscar makes his debut in the Hollywood Roosevelt Hotel ballroom May 16, 1929, when Douglas Fairbanks presents the first Academy Awards. Honorees in 14 categories (right: Best Actress Janet Gaynor) accept the gold-plated statuettes, but there are no tearful gasps of surprise; the winners were announced weeks before. In an odd, one-time pairing, there are awards for both Outstanding (*Wings*) and Unique and Artistic (*Sunrise*) pictures. To date 2,744 Oscars—the nickname is made official in 1939—have been awarded, on television since 1953.

140 YEARS AGO TRACK MEET

Telegraphs transmit the hammer blows May 10, 1869, when the last spike is driven at Promontory Summit, Utah, to unite the Union Pacific and Central Pacific railroads and complete the nation's first transcontinental railway. Since 1862 the two had been competing—the Union Pacific west from Omaha and the Central Pacific east from Sacramento—to see which could cover the most ground before they met up. When the ceremonial golden spike is driven (and quickly replaced by an iron one), the Union Pacific, with the easier terrain, wins the mileage race 1,086 miles to 690. The new railway, which includes existing tracks east of Omaha, turns a four-month cross-country trip into a week's jaunt.

70 YEARS AGO
FOOD FOR FRAUGHT

In an attempt to bridge the gap between farmers with unsold crops and the hungry urban poor, the USDA rolls out the United States' first food stamp program May 16, 1939, in Rochester, New York. The experimental program provides 50 cents' worth of free blue stamps, good for surplus items—butter, eggs, grapefruit and dried beans, for a start—for every dollar's worth of orange stamps (good for all other food) bought by consumers on relief, as welfare was first known. By the program's end in 1943— World War II having provided a market for both food and workers—some 20 million people have been served.

140 YEARS AGO YES WE CAN

One-armed Civil War veteran John Wesley Powell leaves Green River, Wyoming, May 24, 1869, with nine men and four boats to explore the Grand Canyon via the Green and Colorado rivers: "With some anxiety we start, for the old mountaineers tell us it cannot be run." After 99 days, Powell (left: c. 1890s), minus four men and two boats, arrives 950 miles downriver to proclaim that it can.

Visit Smithsonian.com/history for "Today in History"

BETTMANN / CORBIS; GRANGER COLLECTION, NEW YORK (2); BOB HOHERTZ (2); LIBRARY OF CONGRESS

Around the Mall

SCENES AND SIGHTINGS FROM THE SMITHSONIAN MUSEUMS AND BEYOND

Amanda Young with one of her "boys"—the spacesuit worn by Neil Armstrong in 1969.

ANDREW CUTRARO

SUITING UP

THANKS TO AMANDA YOUNG, THE SPACESUITS THAT ORBITED THE EARTH AND WALKED ON THE MOON WILL SURVIVE FOR FUTURE GENERATIONS TO SEE

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Jukebox p. 24
The Object at Hand p. 26
What's Up p. 28

FROM THE CASTLE

Big Snakes

G. WAYNE CLOUGH

I WAS THRILLED TO BE ON HAND at the Smithsonian Tropical Research Institute (STRI) in Panama when staff scientist Carlos Jaramillo and others published their amazing find of the world's largest snake—42 feet long and weighing 2,500 pounds (previous records were 33 feet and 403 pounds). Actually, 28 of these giant snakes have been found.

Since I am a geological engineer, it was even more interesting for me to tour Jaramillo's most recent project at the Panama Canal. Massive new excavations to allow the world's biggest ships to pass through via a third, larger set of locks have exposed geological formations that date back 17 million years and given Jaramillo an opportunity to help solve a puzzle: how and when the land bridge connecting North and South America formed. Jaramillo's group collects newly uncovered fossils and compares them with fossils found in North America from the same time period. The comparisons should shed light on the formation of the Isthmus of Panama, which began about 20 million years ago; the closure of that isthmus some three million years ago launched two of our planet's great experiments in biodiversity. The first, the Great American Interchange, began when the fauna and flora of North America invaded South America and vice versa across the newly formed land bridge. The second began when the isthmus formed a barrier, dividing marine organisms into Caribbean and eastern Pacific populations.

The world's largest snake—42 feet long and weighing 2,500 pounds—turned up in a Colombian jungle.

During my visit to STRI, I also took in the cacophonous whoops of howler monkeys and rode high above the forest canopy in a research gondola held aloft by a construction crane; I observed butterfly aerobatics and working ant colonies. STRI's focus is Barro Colorado Island, located in the canal's Gatun Lake; its 1,316 plant species, 381 bird species and 115 mammal species are among the world's most intensively studied. Institute scientists are illuminating how forests capture carbon from the atmosphere, studying the health of coral reefs and documenting invasive species. This and other STRI science will inform exhibits at the Smithsonian-affiliated Museum of Biodiversity (BioMuseo) next to STRI labs at the Pacific end of the canal. Designed by Frank Gehry, the new museum will open next year, just in time to celebrate the Smithsonian's 100-year partnership with Panama.

Those among you less interested in geology might still be wondering about the snakes. Not to worry. They preferred eating crocodiles and giant turtles. And the discovery was of snake fossils (mostly backbones) in the remote jungles of Colombia; the snakes, called Titanoboas, lived some 60 million years ago.

G. WAYNE CLOUGH *is Secretary of the Smithsonian Institution.*

See more of the Titanoboa snake at smithsonian.com/titanoboa

Smithsonian Institution

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G. Wayne Clough

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Suits like these worn in 1966 by Buzz Aldrin and Jim Lovell (right) were made to resist the extreme conditions of space travel for only a short period.

"JACK IS THE MOST beautiful. I just adore Jack," says Amanda Young, 62, eyeing a wall of photographs. She is perched on a short stepladder in her workshop at the National Air and Space Museum's Paul E. Garber Facility in Suitland, Maryland. "Gene is gorgeous," she adds. "Mike has knee problems."

Each image is of a different spacesuit. "Jack" is the suit once worn by geologist Harrison "Jack" Schmitt of Apollo 17; "Gene" is Eugene Cernan's suit; he commanded Apollo 17, which was the Apollo program's sixth and final lunar landing mission. "Mike" was worn by Michael Collins, who piloted the command module of Apollo 11, the mission on which Neil Armstrong took "one small step."

Young spends her days cleaning and preserving spacesuits. Some of the 220 garments under her care were worn for only one mission, after which NASA used them either for training other astronauts or sent them to the Smithsonian Institution. Others are never-worn prototypes.

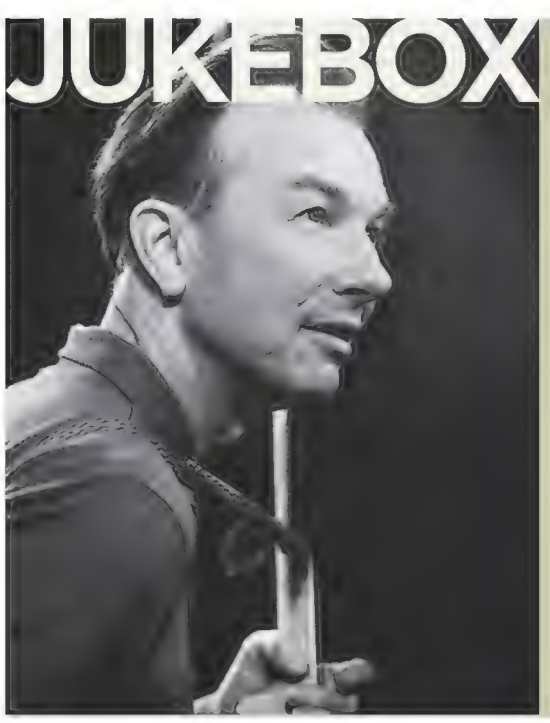
"Jim," a cream-colored number once worn by Jim Lovell of Gemini 12—America's 16th manned spaceflight—lay on a table below the wall of photographs, and next to it was a rack with boxes containing astronaut gloves and helmets.

Young motioned to some boots. Age had caused them to shrivel and harden. The suits had been built to resist the extreme conditions of space travel "for a short period," Young says, "but it turns out they can resist nothing for a long period of time." When Young took over the collection in 1995, no one knew much about spacesuit preservation, including Young. She had started out as a secretary at the museum in 1985, taking on more and more responsibilities, which included lending spacesuits to other museums. Since becoming the collection's official caretaker, she has reached out to specialists in metals, plastics and rubber. Many of the suits' inner latex liners were crumbling to pieces. But experts helped her determine the optimal environment for the suits—68 degrees Fahrenheit and 35 percent relative humidity—to prevent decay. She also made her own discoveries. As the synthetic materials in the suit deteriorate, they release hydrochloric acid. Young learned that draping the suits in muslin absorbs much of it.

Young led me to a climate-controlled storage room surrounded by dusty aircraft and engines on the hangar's main floor. Inside, some 150 stuffed spacesuits (another 70 are on display at various museums) lay on their backs, five to a cart. Young rolled out "Neil," which wore a faded American flag stitched to its shoulder and a patch that read "ARMSTRONG"—the first suit to walk on the moon.

In an "ABC Evening News" piece that aired in 2002, Young was seen turning off the vault's lights and saying, "Goodnight, boys!" She was embarrassed by the sound bite but is not ashamed of her devotion to the suits. "My interest is in caring for these objects," says Young. "She's contributed quite a bit," says Bill Ayrey of ILC Dover, maker of the Apollo spacesuits, "because she's preserved these suits for the next generations to see and understand." Young wrote a book about the garments, *Spacesuits,* which comes out in June.

MEGAN GAMBINO



FOR PETE'S SAKE What kind of birthday present do you get for a man who skipped to his lou, lived where the deer and antelope play and knew an old lady who swallowed a fly? Pete Seeger turns 90 on May 3—and he is still singing the ballads that not only popularized folk music but, in the 1960s, helped transform it into a soundtrack for political activism. Musicians from Bruce Springsteen to Ani DiFranco will perform in Seeger's honor at New York City's Madison Square Garden. Join in the celebration with Smithsonian Folkway's five-record set of Seeger songs, including the album "American Favorite Ballads." Learn how to fix that hole in your bucket at Smithsonian.com/jukebox. **JOSEPH CAPUTO**

BETTMANN / CORBIS; AP IMAGES; P. 26 MARK AVINO / NASM, SI; NMAI, SI; P. 27 MARK AVINO / NASM, SI; KIM NIELSEN / SI; JEFF TINSLEY / NMAH, SI; NMAH, SI; ART RESOURCE, NY; WILSON A. BENTLEY / SI ARCHIVES; JEFF TINSLEY / NMAH, SI; CHRIS HARTLOVE; BILL LOMMEL / NATIONAL POSTAL MUSEUM

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THE OBJECT AT HAND | 20th Anniversary

FAVORITE THINGS

Twenty years ago, this column began chronicling the Smithsonian's treasures

BY OWEN EDWARDS

TWENTY YEARS AGO THIS MONTH, an inventive writer and editor at this magazine, Timothy Foote, came up with a concept that has proved decidedly durable. He suggested a recurring column with the title "The Object at Hand" and proposed it to then editor in chief Don Moser. The idea flew and "Object" remains aloft today.

Foote, who had been a senior editor at both *Life* and *Time* before joining SMITHSONIAN, says he suspected there were countless tales residing in the Smithsonian's vast collections. "Those objects contain a lot of emotion as well as history," Foote told me recently. His idea was practical as well as prescient. "The column let us use the resources of the Institution," he said, "and connected readers with the collections."

Over the years, many writers have recounted the stories behind the objects, telling tales of everything from George Washington's tent to the bones of a U.S. cavalry camel. Inevitably, given the long life of the column and the extent of the collections, certain subgenres have emerged. Frequent forays have been made into the Institution's clothes closet. Writer Victoria Dawson revealed the back stories of Minnie Pearl's straw hat and Fred Rogers' cardigan sweater. I unearthed the history behind Amelia Earhart's leather flight coat and the "puffy" shirt from a favorite episode of "Seinfeld." The column also has paid homage to such classics as Crayola crayons and such quintessential items of Americana as the Miss America tiara.

For the past seven years, the column has afforded me the opportunity to speak with big-band great Artie Shaw about his clarinet—and with musician Benny Goodman's daughter about her father's clarinet. I've had a side-splitting conversation with comedian Phyllis Diller about her file of jokes. I've interviewed such personal heroes as writer-director Mel Brooks and musician-singer Michael Feinstein. And I've gotten to know some wonderful curators.

So my fellow writers and I—and our millions of readers—owe a debt of thanks to Tim Foote, who realized years ago that "you can just take the object and go . . . anywhere."

Amelia Earhart's aviator coat, c. 1930

Lakota Sioux child's buffalo-rib sled, c. 1900

OWEN EDWARDS *is author of* Elegant Solutions.

Gemini 6 astronauts' harmonica and jingle bells, December 1965

Lewis and Clark's compass, 1803

Jerry Seinfeld's "puffy" shirt, 1993

Portrait of Ute delegation to the U.S. Congress, 1868

Snow-crystal photomicrograph, c. 1890

Airplane sculpture, c. 1970

John Lennon's stamp album, c. 1950

Battery-powered EV1 , 1997

Revisit a few of our favorite Smithsonian Object articles at smithsonian.com/objects

What's Up

WATCHWORDS

When curators at the National Museum of American History opened Abraham Lincoln's pocket watch on March 10 looking for a rumored inscription by the man who repaired it in April 1861—*"Fort Sumpter was attacked by the rebels . . . "*—they also found an unexpected inscription: Confederate President *"Jeff Davis,"* and a signature, *"L E Gross, Sept. 1864."*

SPIRIT OF THE SEA

The many faces of Mami Wata ("Mother Water") reveal themselves at the African Art Museum until July 26. The deity (left: 1950s, Angola) is still worshiped throughout Africa and is often portrayed as a snake charmer or double-tailed mermaid.

DRAW THYSELF

The late Elaine de Kooning (1918-89) was an Abstract Expressionist who painted JFK's portrait for the Truman Library. Her self-portrait (left: 1968) is part of a National Portrait Gallery exhibition through August 16 of famous artists' self-depictions.

GO, CUBS!

Two rare clouded leopard cubs joined the National Zoo family March 24, the first such births there in 16 years. At a half-pound each, they are the most "genetically valuable" litter in North America; bred from Thai parents, they add much-needed genetic diversity to the captive population.

NAVAJO WONDER WOMEN

Graphic artist Jolene Nenibah Yazzie tells the story of her Navajo roots through illustrations of female warriors (right: 2007). See more than 35 examples of "Comic Art Indigène" at the American Indian Museum until May 31.

BY JOSEPH CAPUTO

VISIT THE SMITHSONIAN For a free Associates' planning packet, call 202 633-1000 or 202 357-1729 (TTY), 9 a.m. to 5 p.m. Monday through Friday and 9 a.m. to 4 p.m. Saturday. Or send an e-mail to info@si.edu. The Smithsonian Information Center in the Castle is open daily, 8:30 a.m. to 5:30 p.m. Members can visit the reception desk between 9 a.m. and 4 p.m. to register for a behind-the-scenes tour and to hear about membership benefits. Most museums are open daily, 10 a.m. to 5:30 p.m. All museums are closed December 25.

NMAH, SI (2); DON COLE / NMAA, SI; ELAINE DE KOONING TRUST / NPG, SI; JOLENE NENIBAH YAZZIE / NMAI, SI; TRACY A. WOODWARD / THE WASHINGTON POST

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Smithsonian
MAY 2009 · VOLUME 40, NUMBER 2

IN SEARCH OF

Where do they go? How many are there? What's with the tusk? Narwhals (in the Arctic Ocean) have inspired myth and wonder but are still little known to science.

THE MYSTERIOUS NARWHAL

Ballerina turned biologist Kristin Laidre gives her all to study the elusive, deep-diving, ice-loving whale known as the "unicorn of the sea"

BY ABIGAIL TUCKER

EVEN BEFORE THE HUNTERS WERE OFF THE PHONE, Kristin Laidre was out of her pajamas and struggling into a survival suit. She ran down to the beach, where a motorboat awaited. The night was frigid with ice-chip stars; the northern lights glowed green overhead. Laidre and a colleague sped past looming bergs and black cliffs plated with ice to the spot offshore where the villagers' boats were circling. The whale was there, a thrashing ton of panic amid the swells. Laidre could see its outline in the water and smell its sour breath.

The scientists and hunters maneuvered boats and began hauling in the nylon net that had been strung from shore and floated with plastic buoys. It was exceptionally heavy because it was soaking wet and, Laidre would recall, "there was a whale in it." Once the mottled black animal was in a secure hammock, they could slip a rope on its tail and a hoop net over its head and float it back to the beach to be measured and tagged.

But something was wrong. The whale seemed to be only partially caught—snagged by the head or tail, Laidre wasn't sure. The hunters screamed at each other, the seas heaved and the boats drifted toward the fierce cliffs. The hunters fought to bring the whale up, and for a moment it seemed as if the animal, a big female, was theirs—Laidre reached out and touched its rubbery skin.

Then the whale went under and the net went limp, and with a sinking heart Laidre shined her pale headlamp into water as dark as oil.

The narwhal was gone.

KRISTIN LAIDRE DID NOT SET OUT to wrestle whales in the devastatingly cold waters off Greenland's west coast. She wanted to be a ballerina. Growing up near landlocked Saratoga Springs, New York, where the New York City Ballet spends its summer season, she discovered the choreography of George Balanchine and trained throughout her teens to be an elite dancer. After high school, she danced with the Pacific Northwest Ballet, one of the nation's most competitive companies, and while practicing a grueling 12 hours a day performed in *Romeo and Juliet*, *Cinderella* and *The Firebird*.

Wearing hiking boots instead of toe shoes, she still carries herself with a dancer's grace, a perfect surety of movement that suggests she can execute a plié or stand up to a polar bear with equal competence. Laidre's three-year dance career ended after a foot injury, but she says ballet prepared her rather well for her subsequent incarnation as an arctic biologist and perhaps America's leading expert on narwhals, the shy and retiring cetaceans with the "unicorn horn"—actually a giant tooth—found only in the Greenlandic and Canadian Arctic.

"When you are a ballet dancer you learn how to suffer," Laidre explains. "You learn to be in conditions that aren't ideal, but you persist because you're doing something you love and care about. I have a philosophy that science is art, that there is creativity involved, and devotion. You need artistry to be a scientist."

Like the elusive whale she studies, which follows the spread and retreat of the ice edge, Laidre, 33 and single, has become a migratory creature. After earning undergraduate and doctoral degrees at the University of Washington, she

Narwhal pods range from a few to 100 animals (a group near Baffin Island, Canada, in late spring). "I get to see some of the most amazing nature on the planet," says Laidre (below: in Niaqornat in November 2008).

ABIGAIL TUCKER; PP. 30-31 FLIP NICKLIN / MINDEN PICTURES

PP. 32-33 FLIP NICKLIN / MINDEN PICTURES

now spends part of her year at its Polar Science Center, and the rest of the time she works with collaborators in Denmark or Greenland, conducting aerial surveys, picking through whale stomachs and setting up house in coastal hunting settlements, where she hires hunters to catch narwhals. Along the way she has learned to speak Danish and rudimentary West Greenlandic.

The Greenlandic phrase she hears most often—whenever the weather blows up or the transmitters malfunction or the whales don't show—is *immaqa aqagu*. Maybe tomorrow.

That's because she's devoted to what she calls "possibly the worst study animal in the world." Narwhals live in the cracks of dense pack ice for much of the year. They flee from motorboats and helicopters. They can't be herded toward shore like belugas, and because they're small (for whales) and maddeningly fast, it's little use trying to tag them with transmitters shot from air rifles. They must be netted and manhandled, although Laidre is trying a variation on an aboriginal method, attaching transmitters to modified harpoons that hunters toss from stealthy Greenlandic kayaks.

"Narwhals are hopelessly hard to see, never come when you want them to, swimming far offshore and underwater the whole time," she says. "You think you'll catch a whale in three weeks, you probably won't. Whole field seasons go by and you don't even see a narwhal. There are so many disappointments. It takes great patience and optimism—those are my two words."

The species is practically a blank slate, which is what drew her to narwhals in the first place—that and the crystalline allure of the Arctic. By now she has analyzed scores of narwhal carcasses and managed to tag and follow about 40 live animals, publishing new information about diving behavior, migration patterns, relationship to sea ice and reactions to killer whales. Much of what the world knows about

the narwhal's picky eating habits comes from Laidre's research, particularly a 2005 study that offered the first evidence of the whales' winter diet, which is heavy in squid, arctic cod and Greenland halibut. She is the co-author of the 2006 book *Greenland's Winter Whales*.

Basic questions drive her work. How many narwhals are there? Where do they travel and why? Greenland's government funds part of her expeditions, and her findings influence how the narwhal hunting season is managed. As Greenland modernizes, Laidre hopes to raise public awareness about the whales and their significance to the people and environment of the north. Especially now that the climate seems to be warming, narwhals, Laidre believes, will be seriously affected by melting.

"Most creatures on earth we know a lot more about," Laidre says. "We probably know a lot more about the brains of grasshoppers than we do about narwhals."

THE ALABASTER BELUGA'S dark cousin, the narwhal is not a conventionally beautiful animal. Its unlovely name means "corpse whale," because its splotchy flesh reminded Norse sailors of a drowned body. This speckled complexion is "weird," says James Mead, curator of marine mammals at the Smithsonian's National Museum of Natural History (NMNH); usually, he says, whales are a more uniform color. And unlike other whales, narwhals—which can live more than 100 years—die shortly in captivity, greatly reducing the opportunity to study them. "We've only had a glimpse of the beast," Pierre Richard, a prominent Canadian narwhal specialist, told me.

The whales mate in cracks of ice in the dead of winter, in pitch darkness, when the wind chill can drive the air temperature to minus 60 degrees Fahrenheit. ("Not very romantic," Richard notes.) While shifting currents and winds create breaks in the ice, enabling the animals to surface and breathe, the whales must keep moving to avoid getting trapped. Because of the extreme cold, calves are born husky, about one-third the size of their 12-foot-long, 2,000-pound mothers. Like belugas and bowheads, which also inhabit arctic waters, narwhals are about 50 percent body fat; other whales are closer to 20 or 30 percent. No one has ever seen a submerged narwhal eat. Laidre led a study of the stomach contents of 121 narwhals that suggested they fast in summer and gorge on fish in winter.

Fond of bottom-dwelling prey like Greenland halibut, narwhals are incredibly deep divers. When Mads Peter Heide-Jorgensen, Laidre's Danish colleague and frequent collaborator, pioneered narwhal-tagging techniques in the early 1990s, his transmitters kept breaking under the water pressure. Five hundred meters, 1,000, 1,500—the whales, which have compressible rib cages, kept plunging. They bottomed out around 1,800 meters—more than a mile deep. At such depths, the whales apparently swim upside down much of the time.

The whales' most dazzling feature, of course, is the swizzle-stick tusk that sprouts from their upper left jaw. Though the whales' scientific name is *Monodon monoceros*, "one tooth, one horn," an occasional male has two tusks (the NMNH has two rare specimens) and only 3 percent of females have a tusk at all. The solitary fang, which is filled with dental pulp and nerves like an ordinary tooth, can grow thick as a lamppost and taller than a man, and it has a twist. On living whales, it's typically green with algae and alive with sea lice at its base. No one's sure precisely how or why it evolved—it has been called a weapon, an ice pick, a kind of dousing rod for fertile females, a sensor of water temperature and salinity, and a lure for prey. Herman Melville joked that it was a letter opener.

"Everybody has a theory on this," Laidre says with a sigh. (The question comes up a lot at cocktail parties.)

Most scientists, Laidre included, side with Charles Darwin, who speculated in *The Descent of Man* that the ivory lance was a secondary sex characteristic, like a moose's antlers, useful in establishing dominance hierarchies. Males have been observed gently jousting with their teeth—the scientific term is "tusking"—when females are nearby. The tooth, Laidre patiently explains, cannot be essential because most females survive without one.

In 2004, Greenland set narwhal-hunting quotas for the first time, despite some hunters' protests, and banned the export of the tusks, halting a thousand-year-old trade. Conservationists—newly roiled this past summer by the discovery of dozens of dead narwhals in East Greenland, the tusks chopped out of the skulls and the meat left to rot—want still more restrictions. It's estimated there are at least 80,000 of the animals, but nobody knows for sure. The International Union for Conservation of

PP. 34-35 ABIGAIL TUCKER

In the tiny Arctic village of Niaqornat (left), Laidre and co-workers enlist local hunters to capture narwhals (below: Hans Lovstrom sets a net while 11-year-old Arne Per Kruse steers) so the whales can be tracked. One conservation group says the animals are "near threatened"; since 2004, Greenland has limited the narwhals that hunters may kill—a departure from the past (below left: tusks from animals entrapped by ice and killed near Disko Island in 1915).

Nature this year said the species was "near threatened."

To track the whales, Laidre and Heide-Jorgensen have collaborated with hunters on Greenland's west coast and were just starting to build relationships in the village of Niaqornat when I asked to tag along. We would arrive in late October and the scientists would remain through mid-November, as darkness descended and the ice glided into the fjords, and the pods of whales, which they suspect summer in Melville Bay several hundred miles north, made their way south. It was a time frame that some of Laidre's colleagues in Seattle, many of them climate scientists who prefer to study the Arctic via buoy and robotic plane, considered vaguely insane.

Laidre, of course, was optimistic.

WHEN LAIDRE, HEIDE-JORGENSEN AND I first reached the village, after a two-hour boat ride that involved rounding icebergs in the inky blackness of a late arctic afternoon, the sled dogs greeted us like hysterical fans at a rock concert while villagers crowded the boat, reaching in to pull out our luggage and hollering at Laidre in Greenlandic.

Niaqornat (pop. 60) is on a tongue of land in Baffin Bay inside the Arctic Circle. The settlement sits hard against a white wall of mountains, where men hunting arctic grouse leave tiny red droplets in their footsteps on the slopes: blackberries crushed under the snow. Greenland has its own home-rule government but remains a Danish possession, and thanks to the Danish influence the town is fully wired, with personal computers glowing like hearths in almost every living room. But none of the houses, including the drafty three-room field station used by Laidre and other scientists, has plumbing or running water; the kerosene stoves that keep the water from freezing are easily puffed out by the ripping wind, which also brings waves bashing against the town's scrap of black beach.

With its tide line of pulverized ice crystals, the beach is the chaotic center of village life, scattered with oil drums, anchors and the hunters' little open boats, some of which are decorated with arctic fox tails like lucky giant rabbit's feet. There are waterfront drying racks hung with seal ribs, waxen-looking strips of shark and other fish, and the occasional musk ox head masked with ice. Throughout the town, sled dogs are staked to the frozen ground; there are at least three times as many dogs as people.

Signs of narwhals are everywhere, especially now that the

MAP: GUILBERT GATES; ABIGAIL TUCKER; M. PORSILD / ARKTISK INSTITUT

Patience and optimism are key to narwhal research, says Laidre (preparing to attach a transmitter to a narwhal near Nunavut, Canada; Heide-Jorgensen is across from her).

tusk market has been shut down and hunters can't sell the ivory for gas money and other expenses. The whales' undeveloped inner teeth are strung up over front porches like clothespins on a line. A thick tooth is proudly mounted on the wall of the little building that serves as the town hall, school, library and church (complete with sealskin kneelers). It seems the fashion to lean a big tusk across a house's front window.

"There are months when no supplies are coming into the town, and people depend only on what they pull out of the sea," Laidre told me. "The arrival of these whales is a small window of opportunity, and hunters have to have an extremely deep knowledge of how they behave."

The narwhals typically arrive in November, darting into the fjord in pursuit of gonatus squid, and Niaqornat men in motorboats shoot the animals with rifles. But in the springtime, when the whales pass by again on their way north, the hunters work in the old way, driving their dog sleds out into the ice-covered fjord. Then they creep in single file, wearing sealskin boots so as not to make a sound—even a clenched toe can make the ice creak. They get as close as they can to the surfacing whales, then hurl their harpoons.

In the darkness they can tell the difference between a beluga and a narwhal by the sound of their breathing. And if the hunters can't hear anything, they search them out by smell. "They smell like blubber," a young man told me.

ABIGAIL TUCKER *is the magazine's staff writer.*

DURING THE MIDDLE AGES, and even earlier, narwhal tusk was sold in Europe and the Far East as unicorn horn. Physicians believed that powdered unicorn horn could cure ills from plague to rabies and even raise the dead. It seems also to have been marketed as a precursor to Viagra, and it rivaled snake's tongue and griffin's claw as a detector of poison. Since poisonings were all the rage in medieval times, "unicorn horn" became one of the most coveted substances in Europe, worth ten times its weight in gold. French monarchs dined with narwhal-tooth utensils; Martin Luther was fed powdered tusk as medicine before he died. The ivory spiral was used to make the scepter of the Hapsburgs, Ivan the Terrible's staff, the sword of Charles the Bold.

Historians have not definitively identified where the ancient tusks originated, though one theory is that the narwhals were harvested in the Siberian Arctic (where, for unknown reasons, they no longer live). But in the late 900s the Vikings happened upon Greenland, swarming with narwhals, their teeth more precious than polar bear pelts and the live falcons they could hawk to Arabian princes. Norse longboats rowed north in pursuit of the toothed whales, braving summer storms to trade with the Skraelings, as the Vikings called the Inuit, whom they despised.

It was Laidre's intellectual ancestors, the Enlightenment scientists, who ruined the racket. In 1638, the Danish scholar Ole Wurm refuted the unicorn myth, showing that the prized horn material came from narwhals, and others followed suit. In 1746, faced with mounting evidence, British physicians abruptly stopped prescribing the horn as a wonder drug (though the Apothecaries' Society of London had already incorporated unicorns into its coat of arms). Today, the tusks fetch more humble prices—about $1,700 a foot at a 2007 auction in Beverly Hills. (It has been illegal to import narwhal tusk into the United States since the 1972 Marine Mammal Protection Act, but material known to have entered the nation earlier can be bought and sold.)

To the Inuit, the whale and its horn are hardly luxury goods. Greenlanders traditionally used every part of the animal, burning its blubber in lamps, using the back sinews to sew boots and clothes and the skin for dog sled traces. The tusks were tools of survival in a treeless landscape, used as sled runners, tent poles and harpoons. The tusks were also bleached and sold whole or carved into figurines (and, yes, Mr. Melville, letter openers). Even today, when iPods are sold at the Niaqornat village store, narwhals remain a vital source of food. Narwhal meat feeds dogs and fills freezers for the winter, a last nutritional opportunity before total darkness closes over the town like a fist. *Mattak*, the layer of skin and blubber that is eaten raw and rumored to taste like hazelnuts, is an Inuit delicacy.

When an animal is killed, word spreads by radio, and the whole town rushes down to the beach, shouting the hunter's

PAUL NICKLEN / NGS IMAGE COLLECTION

FLIP NICKLIN / MINDEN PICTURES

Living in frigid waters, narwhals (males off Baffin Island) have no dorsal fin—a possible adaption to their icy world—and are about 50 percent blubber, which helps conserve heat.

name. After the butchering, families share the carcass, part of a traditional gifting system now almost unknown outside the settlements. "We make a living only because the whales come," Karl-Kristian Kruse, a young hunter, told me. "If narwhals didn't come, there would be nothing here."

The new whale quotas will probably make life more difficult in Niaqornat: before 2004, there were no limits on the number of narwhals hunters could catch, but in 2008 the whole village was allotted only six. "The scientists want to know how many whales there are," Anthon Moller, a 25-year-old hunter, said bitterly. "Well, there are a lot, more than ever before. With quotas it's hard to live."

When Laidre and Heide-Jorgensen first showed up to ask for help catching narwhals in nets and then—of all preposterous notions—letting them go, some men thought it was folly, even though the scientists would pay almost as handsomely as the Vikings. Now, two years later, having lost one whale after netting it and successfully tagging only one other, the hunters still weren't entirely persuaded. And yet, they were curious. They, too, wanted to know where the whales went.

THERE ARE NO DOORBELLS IN NIAQORNAT, and no knocking. When the town's dozen or so hunters came over to the scientists' house, they just walked in, stomping their big boots politely, to give fair warning as much as to kick off the snow.

They were small, spare men, smelling of fish and wet flannel, with wind-burned skin, flared nostrils and dark eyes. Laidre offered coffee, along with a cake she'd baked that afternoon. They munched watchfully, some of them humming to themselves, while Heide-Jorgensen showed slides of the narwhal tagged in 2007, captured when Laidre was home in Seattle. To catch a unicorn, it is said, you need virgins for bait; to net a narwhal, and transfer it from ocean to beach and back again, a bunkhouse of cowboys would be handier. The whale bucked like a bronco as the hunters, led by one of Laidre's technicians, pinned a transmitter, about the size of a bar of soap, to the dorsal ridge. When at last the tag was secure, the technician was so relieved he smooched the animal's broad back. Then they walked it out with the tide and let it go. One of the hunters had videotaped the entire frothy episode on his cellphone; a year later, the villagers still watched it raptly.

"*Kusanaq*," Heide-Jorgensen told the hunters. "Beautiful. A great collaboration. This time we'll move the tag back a little and also put on a tusk transmitter."

He explained that he and Laidre would pay: 20,000 Danish kroner, or about $3,700, for a captured beluga, which the scientists were also studying; $4,500 for a *qernertaq*, or narwhal; $5,500 for a *qernertaq tuugaalik*, or tusked narwhal (hunters expect more for males because they're accustomed to selling the tusks); and $6,400 for an *angisoq tuugaaq*, or large tusked narwhal.

The hunters thought this over for a moment, then one raised his hand with a question: What would happen if the whale died?

In that case, the scientists explained, the meat would be divided equally among the villagers.

The scientists also screened a map of the tagged narwhal's travels, its movements traced in green. The whales can migrate more than 1,000 miles in a year. After leaving Niaqornat this one had wandered farther into the fjord in December and January, near Uummannaq, a bigger town with bars and restaurants, where many of the hunters had friends and rivals. Then in March it had turned north toward its summering grounds near Melville Bay, at which point the transmitter stopped working. The hunters eyed the crazy green zigzag with fascination. Though some had seen the data before in weekly e-mail updates from the scientists, it was still astonishing stuff. Some later said they'd enjoy daily updates: they wanted to track the narwhal like traders follow the stock market. When the hunters finally left, full of coffee, cake and respectful criticisms of Laidre's baking, the matter was decided. They would set nets in the morning.

WELL, *immaqa aqagu*.

That evening, the temperature, which had sometimes reached the balmy 40s during the day—"Beluga weather," Heide-Jorgensen had said a bit contemptuously—plunged into the teens. Even inside the house, the cold was devouring. All night the wind whooped and the dogs sang and the waves bludgeoned the shore. By morning the dogs had curled into miserable little doughnuts in the snow. The hunters dragged their boats to higher ground. On the hills above town much of the snow had blown away, giving the black earth a dappled appearance, like narwhal skin. No nets would be set today, nor—if the weather report was accurate—for days to come.

"No nets and no underwear," said Laidre, whose personal field gear was due to arrive on a helicopter that almost certainly wouldn't show. "Life is not easy."

At times like these she almost envied colleagues who studied microscopic organisms in jars instead of whales in the raging North Atlantic. Her own brother, a graduate student at Princeton, was researching hermit crabs on the beaches of Ireland, where a cozy pub was never far away. Meanwhile, in Niaqornat, the wind was so vicious that Heide-Jorgensen got trapped in the community bathhouse for hours. The scientists took to singing the Merle Haggard song "If We Make It Through December." For days they made spreadsheets, calibrated transmitters, charged their headlamps—anything to keep busy.

There was some excitement when a young hunter, having learned that I had passed my whole life never having tasted narwhal mattak, arrived with a frozen piece from last year's harvest. (I had asked him what it tasted like, and he said, with a pitying gaze, "Mattak is mattak.") Hazelnut was not the flavor that came to my mind. But Laidre and Heide-Jorgensen tucked away great mouthfuls of the stuff, dipped in soy sauce. In the old days, foreign sailors who abstained from vitamin-C-rich whale mattak sometimes died of scurvy.

Several Niaqornat men who'd been out hunting belugas before the storm were stranded a few hundred miles away, but no one in town expressed concern; in fact, everyone seemed quite merry. Winter's arrival is good news on this part of Greenland's coast, because narwhals always follow the freeze.

The whales' fate is tied to the ice. Narwhal fossils have been found as far south as Norfolk, England, to which the ice cover extended 50,000 years ago. Ice protects narwhals from the orcas that sometimes attack their pods; the killer whales' high, stiff dorsal fins, which are like fearsome black pirate sails, prevent them from entering frozen waters. Even more important, Laidre says, narwhals beneath the pane of ice enjoy almost exclusive access to prey—particularly Greenlandic halibut, which may be why they are such gluttons in winter.

Occupying an icy world has its risks. Narwhals lingering too long in the fjords sometimes get trapped as the ice expands and the cracks shrink; they cut themselves horribly trying to breathe. In Canada this past fall, some 600 narwhals were stranded this way, doomed to drown before hunters killed them. These entrapments are called *savssats*, a derivative of an Inuit word meaning "to bar his way." Laidre believes that massive die-offs in savssats thousands of years ago may account for the narwhal's extraordinarily low genetic diversity.

Still, less ice could spell disaster for narwhals. Since 1979, the Arctic has lost an ice mass the size of nearly two Alaskas, and last summer saw the second-lowest ice cover on record (surpassed only by 2007). So far the water has opened mostly north of Greenland, but hunters in Niaqornat say they've noticed differences in the way their fjord freezes. Even if warming trends are somehow reversed, Laidre's polar-expert col-

leagues back in Seattle doubt that the ice will ever regain its former coverage area and thickness. Narwhals may be imperiled because of their genetic homogeneity, limited diet and fixed migration patterns. Laidre was the lead author of an influential paper in the journal *Ecological Applications* that ranked narwhals, along with polar bears and hooded seals, as the arctic species most vulnerable to climate change.

Preferring dense sea ice to open water in winter, narwhals (near Baffin Island) will be among the arctic animals most disturbed by global warming, Laidre and her colleagues predict.

"These whales spend half the year in dense ice," she says. "As the ice's structure and timing changes, the whole oceanography, the plankton ecology, changes, and that affects their prey. Narwhals are a specialist species. Changes in the environment affect them—without a doubt—because they are not flexible."

For the past several years Laidre has been attaching temperature sensors along with tracking gear to captured narwhals. One morning in Niaqornat, she received an e-mail with an analysis of water temperature data collected by 15 tagged narwhals from 2005 to 2007. Compared with historical information from icebreakers, the readings showed warming of a degree or more in the depths of Baffin Bay. Laidre was ecstatic that her collecting method seemed to have worked, though the implications of rising temperatures were disturbing.

Indeed, there are already reports of more killer whales in the Arctic.

ONCE THE GALES STOPPED, it was cold but calm: perfect narwhal weather, Heide-Jorgensen declared. I sailed out to set nets with a hunter, Hans Lovstrom, whose boat kept pace with the kittiwakes, pretty gray-winged gulls. We knotted the rope with bare fingers; mine soon became too cold to move. Lovstrom told me to plunge my hands into the water, then rub them vigorously together. I pretended it helped.

Back in the village, social invitations began to flow into the scientists' little house. Would they like to come to a coffee party? A supper of seal soup? Youth night at the school? The colder the weather, the more the community seemed to warm to the scientists. The first time Laidre and Heide-Jorgensen spent a field season in Niaqornat, the village happened to hold a dance party. Someone strummed an electric guitar. Laidre danced with all the hunters, swooping through the steps of the Greenlandic polka, which European whalers had taught the Inuit centuries ago.

That's what everyone had been hollering about when we'd arrived at Niaqornat the first night—they remembered, and admired, the dancing scientist.

As long as the whales keep coming, maybe Greenland's hunting settlements won't be completely absorbed into the growing tourism culture that rents out aluminum igloos to rich foreigners and pays elite hunters to wear polar bear pants in the summertime and toss harpoons for show.

THE SUNDAY BEFORE I LEFT Greenland (Laidre would stay for several more weeks), the stranded beluga hunters chugged back to Niaqornat in their boat. Just before darkness fell, people made their way down to the water. Bundled-up babies were lifted high overhead for a better view; older children were ruddy with excitement, because beluga mattak is second only to the narwhal's as winter fare. The dogs yelped as the yellow boat, laminated with ice, pulled into the dock.

Bashful before so many eyes but stealing proud looks at their wives, the hunters spread tarps and then tossed out sections of beluga spine and huge, quivering organs, which landed with a slap on the dock. Last of all came the beluga mattak, folded in bags, like fluffy white towels. The dismembered whales were loaded into wheelbarrows and spirited away; there would be great feasting that night on beluga, which, like narwhal meat, is nearly black because of all the oxygen-binding myoglobin in the muscle. It would be boiled and served with generous crescents of blubber. The scientists would be guests of honor.

"When I'm old and in a nursing home, I'll think of the friends I have in the Arctic as much as my experiences with whales," Laidre had told me. "And I'm happy that my work helps protect a resource that's so important to their lives."

The hunters had good news, too. Hundreds of miles north, in the endless blackness of ocean and near-permanent night, they had crossed paths with a pod of narwhals, perhaps the first of the season, making their way south toward the fjord.

PP. 38-39 PAUL NICKLEN / NGS IMAGE COLLECTION

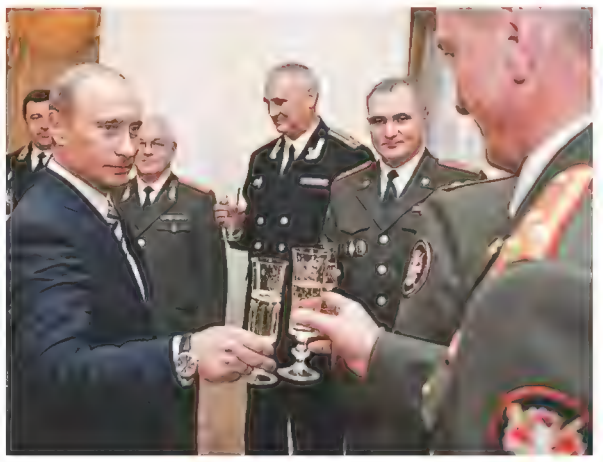
The old man had always been fiercely independent, and he entered his tenth decade with his mind clear, his memory keen and his fluent Russian still tinged with an American accent. His wife had died in 1999, and when his legs began to go he had trouble accepting help from his relatives in Moscow. He gradually withdrew from most human contact and died quietly on January 31, 2006, at age 92, taking his secrets to the grave.

A singular confluence of developments forced Zhorzh Abramovich Koval out of obscurity. First, over the past decade Western intelligence analysts and cold war historians began to grasp the role of the GRU, the Soviet (now Russian) military intelligence agency, in the development of the USSR's nuclear weapons program in the 1940s. Then in 2002, Russian historian Vladimir Lota published *The GRU and the Atom Bomb*. The book, which has yet to be translated into English, recounts the exploits of a GRU spy code-named Delmar, who, with the exception of the British scientist Klaus Fuchs, may have done more than anyone to help the Soviet Union achieve its sudden, shocking nuclear parity with the United States in 1949.

IOWA-BORN, SOVIET-

George Koval was a baseball fan and a chum to the guys in his U.S. Army unit. So America's most valuable atomic secrets for the USSR? BY MICHAEL WALSH

Most tellingly, in November 2007 Russian President Vladimir Putin posthumously awarded Koval, who had mustered out of the Red Army as a lowly private in 1949, a gold star marking him as a Hero of the Russian Federation—then publicly named him as Delmar. The spy's identity had been such a closely held secret that Putin himself, a former KGB officer, may have learned of it only in 2006, after he saw the man's portrait at a GRU museum opening and asked, in effect: who's *that*?



At Sioux City's Central High School, Koval (opposite: an undated photograph from his FBI file) was in the Honor Society. His spying for the Soviet Union remained a closely held secret until 2007, when then-Russian President Vladimir Putin (above) held a ceremony to honor Koval's exploits.

Ever since the award ceremony effectively blew Koval's cover, Western scholars have been revising the narrative of cold war espionage to account for his activities during the two years he worked at top-secret nuclear laboratories in Oak Ridge, Tennessee, and Dayton, Ohio. Beginning in the 1940s, intercepted Soviet intelligence cables helped implicate such KGB-run spies as Julius and Ethel Rosenberg and Harry Dexter White, a senior Treasury Department official under President Franklin Roosevelt who died of a heart attack shortly after he was called before the House Un-American Activities Committee in 1948. But except for Whittaker Chambers—the American writer who spied for the GRU in the 1930s but became a prominent anti-Communist and a principal in the 1950 perjury conviction of former State Department official Alger Hiss over his Communist ties—"we knew next to nothing about the extent of the GRU's espionage operation against the Manhattan Project until the Koval thing came up," says John Earl Haynes, a historian at the Library of Congress and an authority on the cold war.

What can be gleaned so far—from Western and Soviet archives, FBI documents, current scholarship and interviews with Koval's surviving former colleagues in the United States and his relatives in Russia—is that he was perfectly positioned to steal information about one of the most crucial parts of the bomb, the device that initiates the nuclear reaction. This required not only careful planning, rigorous training and brazen lying, but also astounding turns of luck. And in contrast to the known KGB spies, Haynes notes, "Koval was a trained agent, not an American civilian. He was that rarity, which you see a lot in fiction but rarely in

-TRAINED
why did he steal one of
Karel Georg

real life—a sleeper agent. A penetration agent. A professional officer."

Most unsettling, he was born in the United States. Scholars knew that much from Lota's book. Now, after Koval's unmasking, it is possible to trace the roots of his betrayal of his native land all the way back to Sioux City, Iowa.

ITS OFFICIAL NAME WAS Central High School, but the red-brick Victorian fortress in Sioux City was better known as the Castle on the Hill. Built in 1892, it was a monument to the city's sense of itself at the turn of the century, when Sioux City seemed poised to become another Chicago, a center of culture and commerce that attracted migrants from back east and immigrants from Europe and Russia.

Those newcomers included a sizable Jewish community of merchants and craftsmen, who quickly erected synagogues and formed groups to support the *chalutzim* ("pioneers," in Hebrew) who were already beginning to settle in what would become Israel. Others brought with them some of the political and ideological movements then swirling across their homelands—including communism. Among these was Abram Koval, a carpenter who emigrated in 1910 from the Belorussian *shtetl* of Telekhany, near Minsk. He and his wife, Ethel Shenitsky Koval, raised three sons—Isaya, born in 1912; Zhorzh, or George, born on Christmas Day, 1913; and Gabriel, born in 1919—in a comfortable house not far from the Castle on the Hill.

In the 1950s, when the FBI assembled a dossier on Koval that ran to more than a thousand pages, neighbors recalled that young George spoke openly of his communist beliefs. In 1929, when he graduated from the Castle at the age of 15, he was in the Honor Society and the leading member of the debate squad. (That June he also had a prominent role in the class play: *Nothing But the Truth*.)

After graduation, George studied electrical engineering at the University of Iowa for two and a half years. But about the time the Great Depression put an end to Sioux City's hopes of becoming another Chicago, Abram Koval packed up his wife and sons to seek his fortune elsewhere. He was secretary of an organization known as ICOR, a Yiddish acronym for the Association for Jewish Colonization in the Soviet Union. ICOR was a communist organization that functioned as a rival to the Zionist movement's hopes for a Jewish homeland in the Middle East, and it was to the Soviet Union that the Kovals moved in 1932.

"They had a different view of patriotism," Ronald Radosh says of the expatriate Russians. "Communism may have been a bad dream, but it was a dream that had merit in their eyes," adds Radosh, co-author (with Joyce Milton) of *The Rosenberg File* and a leading scholar of Soviet espionage during and after World War II. "It was, in part, a legacy of the czarist past and the pogroms—the czar was the enemy of the Jews."

Traveling on a U.S. family passport, the Kovals had

At CCNY, Koval (circled in red) became "famous" for helping students evade bed check, says Arnold Kramish (circled in blue).

In 1943, Koval entered an Army program for academically talented enlisted men. "At the time his classmates believed there was no better man than George," says a friend from that period. "He was superb at every job he had."

MICHAEL WALSH *covered the Soviet Union and Eastern Europe for* Time *magazine and other publications from 1985 to 1991.*

DUANE WEISE; P. 40 DMITRY ASTAKHOV / AFP / GETTY IMAGES; PP. 40-41 FBI

planned to return to Minsk, "but the Soviet authorities did not allow them to do that," says Maya Koval, George's 28-year-old grandniece, who lives in Moscow. "They were forced to stay in the Vladivostok area," in the so-called Jewish Autonomous Region that Stalin had established in the 1920s. They settled in the town of Birobidzhan, near the Soviet border with Manchuria. In 1936, an American named Paul Novick, who edited a Communist Yiddish-language daily in New York City, visited the town and met the Kovals. The family, he would assert to his readers, "had exchanged the uncertainty of life as small storekeepers in Sioux City for a worry-free existence for themselves and their children," according to a book Canadian political scientist Henry Srebrnik is writing on ICOR and Birobidzhan.

Working on a collective farm, Isaya, the eldest Koval son, became a champion tractor driver and married a Jewish girl from Kiev, with whom he had three girls and a boy. (He died in May 1987, in a village near Birobidzhan.) George, after improving his Russian on the collective, was accepted in 1934 to study at the Mendeleev Institute of Chemical Technology in Moscow; there he met and married Lyudmila Ivanova, a fellow student whose father owned a small chocolate factory in Moscow. Five years later he graduated with honors, and he received Soviet citizenship along the way. His brother Gabriel also attended Mendeleev, but was killed in August 1943, fighting with the Red Army.

Exactly how and when the GRU recruited George is unclear, but after he received his degree he left Moscow as part of a subterfuge: "I was drafted into the army in 1939 to cover up my disappearance from Moscow," Koval would later write to Arnold Kramish, an American scientist he would befriend. "I did not accept an offer of military training and service as an army officer at that time, was never sworn in, or wore a uniform here." Kramish is now 86 and living outside Washington, D.C. after a long career at the RAND Corporation and the Atomic Energy Commission. Partly out of a professional interest in Soviet nuclear programs, he reestablished contact with Koval in 2000 and kept in touch by letter and e-mail over the last five years of Koval's life.

Koval's CCNY classmates—unaware of his wife in Moscow—marveled at his social prowess (above: with an unidentified woman in a photo from his FBI file). He was later assigned to the Oak Ridge laboratories (below), where Manhattan Project scientists performed crucial research on plutonium.

WEST OAK RIDGE
PROHIBITED AREA
ADMITTANCE PROHIBITED EXCEPT TO AUTHORIZED PERSONNEL .....
CAMERAS FIREARMS EXPLOSIVES & BINOCULARS ARE FORBIDDEN
DISTRICT ENGINEER

One thing Koval's correspondence does explain is how he returned to the United States in 1940, even though his parents had relinquished their U.S. passport: "I entered the U.S. in October 1940 at San Francisco," he wrote to Kramish. "Came over on a small tanker and just walked out through the control point together with the captain, his wife and little daughter, who sailed together with him."

KOVAL MADE HIS WAY to New York City and, Kramish says, assumed deputy command of the GRU station there. The station went under the cover of the Raven Electric Company, a supplier to General Electric and other U.S. firms, with two Manhattan offices. Koval told colleagues he was a native New Yorker, an only child and an unmarried orphan. Standing six feet tall, with a penetrating gaze and a bohemian's distracted air, Koval came across as a baseball fan and an overall boon companion. "I don't know anybody who hated George," Kramish says.

On January 2, 1941—just months after he walked into the United States—Koval registered for the draft, listing a Bronx home address. Raven secured him a job-related deferment for a year beginning in February 1942; according to the Russian historian Lota, Koval's Soviet handlers wanted him to steal information about *chemical* weapons and believed that his ability to do so would be compromised if he were drafted. But the deferment expired, and on February 4, 1943, George A. Koval was inducted into the United States Army.

After basic training at Fort Dix, New Jersey, Private Koval was sent to the Citadel in Charleston, South Carolina, to join the 3410th Specialized Training and Reassignment Unit. And on August 11 of that year he was admitted to a new unit, the Army Specialized Training Program (ASTP). One of his colleagues there, Duane Weise, believes Koval scored particularly high on the Army's analog to the IQ test. The move marked Koval's first step toward the nation's nuclear labs.

The Army had established the ASTP in December 1942 to provide academically talented enlisted men with an undergraduate education and specialized technical training at colleges and universities across the country. Koval was sent to

FBI; ED CLARK / TIME LIFE PICTURES / GETTY IMAGES

study electrical engineering at the City College of New York (CCNY); his surviving former ASTP fellows say he became something of a role model, even a father figure, to them. "At the time his classmates believed there was no better man than George," says Kramish, who was also in the program. "He was superb at every job he had."

Koval was a decade older than the others, Kramish says, and acted more maturely. "That was one of the anomalies about him," Kramish recalls. "In retrospect, there were mysteries that made him stand out." One, he says, was that Koval never seemed to do any homework. ("Of course, that was because he was already a college graduate back in Moscow, although we didn't know that at the time.") Another talent was helping his chums evade bed check by arranging pillows and blankets into "sleeping" bodies. ("He was famous for that," Kramish says.) And he smoked his cigarettes down to where they almost burned his fingers as he pinched the butt. ("That was a very distinctive Eastern European habit," Kramish adds, "which I never knew about until I went to Europe after the war.") Koval's surviving classmates (who at the time knew nothing of a wife in the Soviet Union) also say he was a notable ladies' man.

Stewart Bloom, 86, another CCNY trainee, recalls that Koval lacked a New York accent. "I always thought he was straight out of Iowa," says Bloom, a Chicago native. But in the urgency of war, Bloom says, he gave it little thought until nearly a decade after the war ended, when FBI agents showed up at the Brookhaven National Laboratory on Long Island, where he was then working, to ask about his former colleague.

The ASTP proved short-lived. Toward the end of 1943, just a few months after Koval enrolled, the war was tipping in favor of the Allies and the military was demanding ever more combat troops for a final push to victory. In early 1944, the program was dissolved and most of the participants were sent to the infantry.

Not Koval. He, along with Kramish and about a dozen others from CCNY, was selected for something called the Special Engineer Detachment (SED). It was part of the Manhattan Project, the covert enterprise that organized the talents of U.S., British and Canadian scientists at facilities across the United States for the purpose of designing and building an atomic bomb.

By the time Koval joined the SED in mid-1944, Manhattan Project scientists were pursuing two very different bombs. One was based on a known and relatively simple technology that required a rare, enriched form of uranium. (Indeed, it was in such short supply that its first "test" was in the bomb that destroyed Hiroshima.) The other bomb would use plutonium—an element that had not been isolated until 1941. The Oak Ridge laboratories were central to the development of both types of bombs.

Koval was assigned to Oak Ridge.

Spying by Klaus Fuchs (above) at the Los Alamos laboratories, combined with Koval's espionage, accelerated the Soviets' atomic program. Fuchs, however, was apprehended and imprisoned. In 1949, the USSR tested its first atomic bomb (below), initiating a nuclear arms race with the United States.

THERE, KOVAL'S GOOD FORTUNE seemed only to build on itself, almost like a nuclear reaction: he was made a "health physics officer," charged with monitoring radiation levels throughout the sprawling facility. That, according to FBI files, gave him top-secret clearance. "He was one of the very few people who had access to the entire program," says Kramish, who worked in a different Oak Ridge lab. Still, the two saw each other frequently. In August 1944, Kramish was transferred to Philadelphia (where he was injured in a lab accident that killed two co-workers), but he returned to Oak Ridge before being assigned to Los Alamos, New Mexico.

"These things could not have been planned by the Soviets or anyone," writes nuclear historian Robert S. Norris in "George Koval, Manhattan Project Spy," a paper to be presented at a conference in Washington this month and published in the *Journal of Cold War Studies*. "Rather, it was just a lucky hit for the GRU."

Based on experiments conducted at Oak Ridge and elsewhere, reactors that could produce enough plutonium for a bomb were commissioned in Hanford, Washington. Meanwhile, scientists discovered that reactor-produced plutonium was too unstable for the bomb design they had in mind; the material would fizzle out. They had to come up with an "initiator" that would help the plutonium achieve the necessary chain reaction. For that initiator, they chose a form of another rare element, poloni-

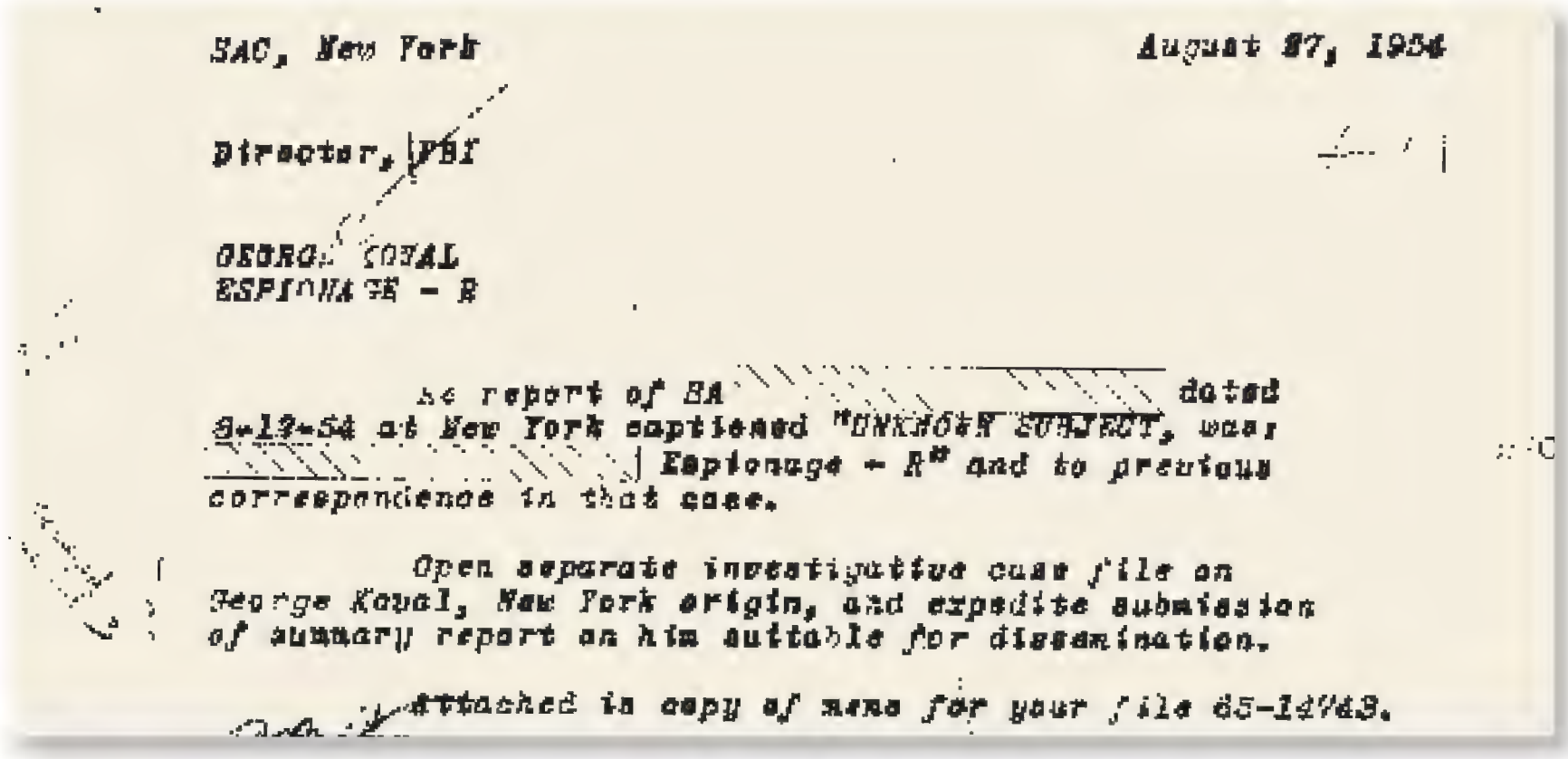
ULLSTEIN BILD / GRANGER COLLECTION, NEW YORK; GRANGER COLLECTION, NEW YORK; KEYSTONE / HULTON ARCHIVE / GETTY IMAGES

um—which was also produced at Hanford and Oak Ridge.

According to Lota, Koval was charged with keeping track of Oak Ridge's polonium. Through a Soviet contact known by the code name Clyde, Koval transmitted production information about it to Moscow via couriers, coded cables and the diplomatic pouch from the Soviet Embassy in Washington. One key fact he passed along was that Oak Ridge's polonium was being sent to Manhattan Project labs in Los Alamos—where Klaus Fuchs happened to be working as a Soviet agent.

Oppenheimer, the scientific director of the Manhattan Project, to quote the *Bhagavad-Gita*: "I am become death, the destroyer of worlds." It gave U.S. war planners the confidence to deploy a plutonium-based bomb, in addition to the uranium-based one in their arsenal.

By then, Germany had surrendered, but Japan had not. Just three weeks later, on August 6, 1945, the uranium-based bomb was detonated over the city of Hiroshima, killing 70,000 people immediately and 70,000 more by the end of the year. And on August 9, 1945, a replica of the Trinity



SAC, New York

August 27, 1954

Director, FBI

GEORGE KOVAL
ESPIONAGE - R

Re report of SA [redacted] dated 8-12-54 at New York captioned "UNKNOWN SUBJECT, was; [redacted] Espionage - R" and to previous correspondence in that case.

Open separate investigative case file on George Koval, New York origin, and expedite submission of summary report on him suitable for dissemination.

Attached is copy of memo for your file 65-14763.

The FBI launched an investigation into Koval in the mid-1950s—but by then he had left the United States and settled in Moscow.

Almost 60 years after the Soviets exploded their first atomic bomb, the Russian Defense Ministry said that the initiator had been "prepared to the 'recipe' provided by military intelligence agent Delmar—Zhorzh Abramovich Koval."

"Fuchs passed the Soviets really detailed information on the design of the bombs," says David Holloway, a professor of history and political science at Stanford University and a leading authority on the atomic arms race. But Koval, he adds, knew that the polonium coming out of Oak Ridge "played some role in the development of the bomb"—knowledge that helped the Soviets connect the dots between Oak Ridge and Los Alamos.

On June 27, 1945, after almost a year at Oak Ridge, Koval was transferred to a top-secret laboratory in Dayton, Ohio. This may have been his most damaging placement; it was there that the polonium-based initiator went into production. Once again, Koval was designated a health physics officer, free to roam the installation.

That July 16, the initiator passed a crucial test: the world's first atomic bomb exploded at a site called Trinity within the bombing range in Alamogordo, New Mexico. This was the explosion that prompted J. Robert bomb exploded over Nagasaki. Five days later, Japanese Emperor Hirohito announced his nation's surrender.

Amid the devastation of the two cities, there were widespread calls for a ban on nuclear weapons. The United States and the Soviet Union proposed an international system of nuclear arms control, but that never happened. Indeed, the Soviets intensified an atomic-bomb program they had begun during the war. As early as October 31, 1946, the CIA estimated that they would succeed "some time between 1950 and 1953"; as the months passed that estimate tilted more toward 1953.

But on August 29, 1949, the Soviets detonated their first atomic bomb, at their Semipalatinsk Test Site in Kazakhstan. The device was a plutonium weapon. Not until 2007 did Russian military officials disclose one crucial factor in their accelerated achievement: the initiator for that bomb was "prepared to the 'recipe' provided by military intelligence agent Delmar—Zhorzh Abramovich

FBI

Koval," the Defense Ministry newspaper *Krasnaya Zvezda* reported when Koval received his gold star.

In 1949, President Harry Truman calmly apprised the American public of the Soviets' test. "We have evidence that within recent weeks an atomic explosion occurred in the USSR," he announced on September 24, in a statement of 217 words, not one of which was "bomb" or "weapon." "Ever since atomic energy was first released by man, the eventual development of this new force by other nations was to be expected," he said. "This probability has always been taken into account by us." Behind the scenes, however, nuclear scientists, generals and policy makers were furiously debating whether the United States should push for arms control or for the next generation of nuclear weapons. Truman rendered that debate moot in January 1950, when he authorized the development of a hydrogen bomb. The nuclear arms race had begun in earnest.

Kramish (right: in March 2009) tracked down his buddy Koval (left: an undated portrait) after a silence that lasted five decades.

"I'm afraid that you will be disappointed to learn that I did not receive any high awards upon my return," Koval wrote from Moscow. The paper trail created to hide his spy career had a "very strong negative effect on my life."

GIVEN THAT GEORGE KOVAL used his real name, it is tempting to wonder why he didn't fall under suspicion as a security risk until long after it was too late. (Klaus Fuchs was caught after the war, implicated in the same group of intercepted Soviet cables that exposed the Rosenbergs and others. Fuchs served more than nine years in a British prison and then emigrated to Dresden, where he died at age 76 in 1988.) Scholars and analysts are still trying to find out why Koval went undetected.

One reason may be that the Soviets were U.S. allies at the time; counterintelligence efforts were focused on German agents. Another is that interservice rivalry hobbled the Manhattan Project's efforts to vet its scientists. According to Kramish and others, Gen. Leslie Groves, the military director of the Manhattan Project, did not trust the FBI to do security checks on the scientists, preferring to rely on Army counterintelligence officers. A third possibility is that in wartime, the Allies chose scientific talent over pristine clearance records. "People like Oppenheimer had all sorts of questionable connections. The question was: What do you do about it?" says Jon Lellenberg, a retired policy and strategy official with the Office of the Secretary of Defense. "If Oppenheimer was as essential as he seemed, and as committed to success as he was, it was probably deemed worth some political risk for the sake of the program."

And finally, there was the timing: by 1949, when the Soviets exploded their bomb, George Koval had left the United States.

His exit was unhurried. Honorably discharged from the Army in 1946, he returned to the Bronx and to CCNY. He joined Eta Kappa Nu, an electrical-engineering fraternity, and received his bachelor's degree in electrical engineering *cum laude* on February 1, 1948. A few months later, he told friends that he was thinking about going abroad, to Poland or Israel. According to Norris, Koval secured a U.S. passport for six months' travel to Europe on behalf of a company called Atlas Trading. That October he sailed for

RED STAR; BRENDAN SMIALOWSKI

Le Havre aboard the ocean liner *America*, never to return.

It is unclear what prompted the FBI to open its mid-1950s investigation into Koval. The resultant raw files, contained in six volumes, include typically exhaustive FBI interviews with Koval's friends, relatives and colleagues, most of whose names are redacted. While the transcripts provide a few hints to Koval's whereabouts after he left the United States—a postcard from Argentina, a reported sighting in Paris—they offer no conclusions about his activities or motivations.

In the following decades, Kramish tried to find his old Army friend, even after he deduced from his FBI interview that Koval had been a spy. Around 2000, Kramish says, he was at the National Archives and by "serendipity" came across some references to Koval and the Mendeleev Chemical Institute. Kramish contacted the institute and secured a telephone number for him. Kramish called, and Koval answered. "It was an emotional moment for both of us," Kramish says. They began corresponding by letter, he says, and then Koval's grandniece persuaded him to use e-mail.

Koval eventually found a teaching job at the Mendeleev Chemical Institute, where his students made fun of his American-accented Russian. "George was the head of our family," says his grandniece Maya (above: with Koval in 2003; below: Koval with niece Galina in 2005). But he "never told us about his work. That was a forbidden topic."

Koval's postwar life in Russia was apparently uneventful. "I'm afraid that you will be disappointed to learn that I did not receive any high awards upon my return," he wrote to Kramish in May 2003. "Life in the Soviet Union was such that my activities instead of bringing me awards, had an opposite, very strong negative effect on my life." When he left the Soviet military in 1949, he wrote, "I received discharge papers as an untrained rifleman in the rank of private—with 9 years of service in the armed forces!" This lackluster record, coupled with his academic and foreign background, "made me a very suspicious character," he wrote, especially amid "the terrible government-instigated-and-carried-out anti-Semitic campaign, which was at its peak in the early fifties." He sought work as a researcher or teacher, but "no one wanted to risk hiring me"—partly, he believed, because someone with his record might be an American spy.

He asked his contact at the GRU for help finding a job—"the only time I ever did." The contact delivered—but, Koval wrote, "even the orders of the Minister of Education brought me nothing better than a job as a laboratory assistant." That was at the Mendeleev Institute. Eventually, he worked his way into a teaching job there. According to a longtime Mendeleev colleague, Yury Lebedev, Koval's students would sometimes giggle when he pronounced the Russian words for "thermocouple" and other technical terms in an American accent. Lebedev says Koval made frequent trips to Khabarovsk to see relatives and, in 1966, brought his nephew Gennady to Moscow to live with him and study at Mendeleev.

Grandniece Maya, a marketing communications manager, came to live with Koval in his Moscow apartment four years before his death. "George was the head of our family—clever, wise and very, very kind," she said in an e-mail interview. "We admired his intellect, his knowledge and his sense of tact. We knew about his work for the GRU. No details—we just suspected that it was somehow related to the nuclear bomb, that's it. George never told us about his work. That was a forbidden topic."

During Koval's decades as an academic in Moscow, the fact that his service to his adopted homeland went unacknowledged rankled him. In 2003 he wrote to Kramish that he had received a minor medal after he returned to Russia, but bigger rewards "went to the career men." Fuchs "got his award, not a very high-ranking one (and was disgruntled about that) only when he was already released and was working as a physicist" in East Germany. And "only quite recently, when Lota began digging in the archives and brought my story to light, was I presented with a rarely awarded medal" for service in foreign intelligence, at a closed ceremony.

Still, despite the perceived slights and his uneasy return to Soviet life, George Koval ended his e-mail on a stoic note: "Maybe I should not complain (and I am not complaining—just describing how things were in the Soviet Union at that time), but be thankful that I did not find myself in a Gulag, as might well have happened."

To the end, he remained unapologetic about betraying the country of his birth. His ASTP colleague Duane Weise, looking back on Koval's turns of luck, offers the theory that he was actually a double agent. "It's just a hypothesis, but there are too many coincidences," Weise says. Kramish, however, sees the matter more directly: "Koval never had any regrets," he says. "He believed in the system."

YURY LEBEDEV; MAYA KOVAL

IN

VOGUE

A new book reminds us that **Edward Steichen** raised fashion photography to an art

BY OWEN EDWARDS

For the photographers who followed him, Edward Steichen left a creative wake of Mozartean dimensions. There was not much that he didn't do, and do extraordinarily well. Landscapes, architecture, theater and dance, war photography—all appear in his portfolio.

Born in 1879 in Luxembourg, Steichen came with his family to the United States in 1881 and started in photography at age 16, when the medium itself was still young. In 1900, a critic reviewing some of his portraits wrote admiringly that Steichen "is not satisfied showing us how a person looks, but how he thinks a person should look." During his long career, he was a gallery partner with the great photography promoter Alfred Stieglitz. He won an Academy Award in 1945 for his documentary film of the naval war in the Pacific, *The Fighting Lady*. He became the first director of photography at the Museum of Modern Art in New York City and created the famous "Family of Man" exhibition in 1955.

Though Steichen didn't invent fashion photography, an argument can be made that he created the template for the modern fashion photographer. A new book, *Edward Steichen in High Fashion: The Condé Nast Years 1923-1937*, and an exhibit through May 3 at the International Center of Photography in New York make that argument with verve. Though expensively dressed women had attracted other photographers (notably the very young Jacques-Henri Lartigue in Paris), Steichen set an enduring standard. "Steichen was a perfectionist," says Howard Schatz, a fashion photographer whose portraits of actors appear in *Vanity Fair*. "His precise eye for lighting and design makes his pictures from the '20s and '30s, though clearly of their time, still much admired by fashion photographers today."

IN THE FLOW
A Steichen photograph of two gowns by Madeleine Vionnet (left: 1930) reflects the ease of movement for which Vionnet was known. The name of the model in white is unrecorded; Marion Morehouse, in black, was one of the photographer's favorite models (at right: Steichen c. 1927).

ALLURE OF COUTURE
Steichen's celebrity portraits (above left: actress Anna May Wong, 1930) burnished his own fame, but his fashion work reflected his mastery at presenting clothes in the most alluring light—whether simply (above right: sandals, 1934) or with elaborate staging (opposite: 1934, turning two models wearing a chiffon gown and print moiré dress into four elegant apparitions).

Steichen spent the first years of the 20th century in Paris, pursuing parallel careers as an art photographer and painter. Those callings, not to mention the sumptuous city itself, would have led his eye toward women, both undressed and very well dressed. In 1907, he made a photograph of two ladies in dazzling white dresses getting into a carriage at the Longchamp racetrack—an early signal that he had an instinct for couture. Four years later, he was assigned by the French magazine *Art et Décoration* to produce pictures of dresses by the Parisian designer Paul Poiret. As William Ewing, director of the Musée de l'Elysée, puts it in an essay in the book, "Any sophisticated American in Paris with the visual curiosity of Steichen would have been hard-pressed *not* to pay attention to this domain of publishing." But his success as a fine art photographer outweighed his interest in the more commercial realm of fashion magazines, and he didn't make another fashion photograph for more than a decade.

Then he went through "a bad and expensive divorce," says another of the book's essayists, Carol Squiers, a curator at the International Center of Photography. By 1922, when Steichen was 43, he was undergoing what we now call a midlife crisis. He had, as Ewing puts it, "serious misgivings about his talents with the brush," and Squiers writes that he told fellow photographer Paul Strand that he was "sick and tired of being poor." He needed something to renew his energies and, not incidentally, a means of making his alimony and child-support payments.

Back in New York, he was invited to a lunch that provided a remedy. The invitation came from Frank Crowninshield, the editor of *Vanity Fair*, and Condé Nast, the

PP. 48, 50, 51 CONDÉ NAST ARCHIVE, NEW YORK © CONDÉ NAST PUBLICATIONS (4); P. 49 THE NEWARK MUSEUM / ART RESOURCE, NY

HOLLYWOOD TREATMENT

In his portraits of movie stars, Steichen appropriated from motion pictures the use of sharp focus and props—including clothing. He chose to photograph Gloria Swanson (above left: 1924) behind a veil and Gary Cooper (above right: 1930) in a suit that complements the subtlety of the actor's good looks.

publisher of both that magazine and *Vogue*, whose wife and daughter Steichen had photographed while in Paris. It was Nast who offered him the job of chief photographer for *Vanity Fair*, which meant, essentially, house portraitist. But regular fashion work for *Vogue* was also part of the deal, and Steichen gladly accepted it.

At that magazine, he would take the place of the famous Baron Adolphe de Meyer, who had been lured to *Harper's Bazaar*. Though de Meyer was fashion photography's first star, Steichen soon became its most luminous.

His portraits for *Vanity Fair* brought him new fame, at least in part because of the status of such celebrity subjects as Gloria Swanson (whom he draped with an evocative veil of black lace) and a formidably handsome Gary Cooper. But on his *Vogue* assignments Steichen produced pictures as meticulously conceived as any painting by Gainsborough or Sargent—even though he needed to fill page after page, month after month. "Condé Nast extracted every last ounce of work from him," Squiers told me in an interview. Steichen "was a one-man industry for the magazines, so he had to work quickly. But he had a great eye for where everything should be."

Steichen's corner-to-corner attentiveness, coupled with his painterly training, allowed him to make fashion pictures that ranged in style from classic 19th-century illustrations to Art Nouveau and Art Deco. "He was designing with his camera," Squiers says, "and after starting out as a [soft-focus] pictorialist, he brought sharp focus to bear and had a tremendous effect on the field."

Typical of his work is a 1933 picture (opposite: left) of a model wearing a patterned dress by a

View more Steichen images at Smithsonian.com/steichen

THE MUSEUM OF MODERN ART / LICENSED BY SCALA / ART RESOURCE, NY; CONDÉ NAST ARCHIVE, NEW YORK © CONDÉ NAST PUBLICATIONS

designer named Cheney. Steichen poses her in front of a two-tone background covered with calligraphic curves that echo the dress, then adds a white hat, scarf and gloves, a bentwood chair and tulips—all of which make a composition reminiscent of a Matisse painting. But he also used movie conventions to make even studio photographs—which are by definition artificial—appear to be life at its most enviable. If two women and a man sat at a well-appointed dinner table, Steichen made sure that part of another table, set with equal lavishness, appeared behind them, turning the studio into a fine restaurant in which the black dresses and tuxedo found their proper context.

In 1937, Steichen left Condé Nast and, according to Squiers, spent the next few years raising delphiniums. (He had become an avid and accomplished gardener in France.) After the United States entered World War II, he put on the uniform of a Navy officer and devoted his talents to the war effort. He never returned to photographing clothes, though he kept taking pictures almost until his death, on March 25, 1973, two days short of his 94th birthday.

After the war, a new generation of fashion photographers, most notably Richard Avedon, adopted smaller cameras and faster film, and they began to leave their studios and urge models to move naturally rather than pose. The carefully staged black-and-white Steichen pictures that delighted prewar readers of *Vogue* mostly gave way to color and spontaneity. But as *Edward Steichen in High Fashion* proves, his pictures retain their power to please.

OWEN EDWARDS *is a frequent contributor to* SMITHSONIAN.

THE COMPOSER

Steichen "had a great eye for where everything should be," says exhibit curator Carol Squiers (above left: a dress by a designer named Cheney, 1933; above right: Marlene Dietrich, 1932). Neither his portraits nor his fashion work, however, foretold his next project: documenting naval exploits in World War II.

CONDÉ NAST ARCHIVE, NEW YORK © CONDÉ NAST PUBLICATIONS (2)

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DESTINATION America

Notable Places to Explore

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Hotspots & Highlights

1 SPOLETO FESTIVAL USA
CHARLESTON, SOUTH CAROLINA
MAY 22-JUNE 7
A work by Japanese dancer-choreographer Hiroaki Umeda and a punk-rock operetta from Brooklyn, based on the life of actor Peter Lorre, are among this year's global performing-arts highlights.

2 RED EARTH NATIVE AMERICAN FESTIVAL
OKLAHOMA CITY, OKLAHOMA
JUNE 5-7
More than 100 tribes, Navajo to Iroquois, gather for events including a three-day ceremonial dance competition and a parade showcasing traditional dress.

3 DAIRYFEST
MARSHFIELD, WISCONSIN
JUNE 5-7
Got milk? A down-home breakfast starts things off in a town (and state) where cheeses from cheddar to Colby, yogurt and more, take top billing.

4 SWAMP STOMP MUSIC FESTIVAL
TALLAHASSEE, FLORIDA
JULY 11
Feast on watermelon and sway to singer-songwriter Del Suggs' homegrown acoustic-guitar sound, known as saltwater music.

5 EMMETT CHERRY FESTIVAL
EMMETT, IDAHO
JUNE 17-20
More than 400 pounds of cherries set the stage for a trio of contests—pie-eating, seed-spitting, baking—in Idaho's orchard country.

6 PIONEER DAYS BONANZAVILLE USA
WEST FARGO, NORTH DAKOTA
AUGUST 15-16
Vintage tractors and grain threshers rumble around the recreated historic village in a tribute to the Red River Valley's wheat-farming traditions.

7 CROWN OF MAINE BALLOON FEST
PRESQUE ISLE, MAINE
AUGUST 27-30
In this town on the Aroostook River, commemorate the 25th anniversary of pioneering pilot Joe Kittinger's 1984 solo transatlantic balloon flight from Caribou, Maine, to Cairo Montenotte, Italy.

8 CINCINNATI HISPANIC FESTIVAL
CINCINNATI, OHIO
SEPTEMBER 12-13
Sample an array of traditional dishes from Mexico and Central and South America—enchiladas and tacos to chicken mole—as mariachi and salsa bands pound out a lively backbeat.

9 FESTIVAL OF THE HORSE
GEORGETOWN, KENTUCKY
OCTOBER 1-4
More than 100 steeds, Morgans to Friesians, parade in a gala nod to the range and variety of the equine world.

10 URBANNA OYSTER FESTIVAL
URBANNA, VIRGINIA
NOVEMBER 6-7
Take in an oyster-shucking contest and the crowning of this year's queen of the fete in a village on the Rappahannock River in the Chesapeake Bay's Tidewater region.

11 HOT SPRINGS COOL ART
TRUTH OR CONSEQUENCES, NEW MEXICO
NOVEMBER 14-15
Sierra County's artistic and cultural diversity are on display in workshops in painting, mask construction, sculpture and more, in a village renowned for its 101-degree waters.

MAP: OLAF HAJEK

California Dreamin'

UNTRAMMELED WILDERNESS AND NEW AGE ENCLAVE, BIG SUR RETAINS ITS RUGGED BEAUTY AND QUIRKY CHARM.

BY JAMES CONAWAY PHOTOGRAPHS BY CATHERINE KARNOW

DESTINATION America

Big Sur's dramatic vistas (above: the view from Post Ranch Inn) entrance residents and day-trippers alike. In 1912 or so, watercolorist Francis McComas described the landscape as the "greatest meeting of land and water in the world."

"Young people were living in cars and under the bridges," says Don McQueen, recalling the 1960s in Big Sur, the 90-mile stretch of California coast where the Santa Lucia Mountains plunge into the Pacific Ocean south of Monterey. "Once, I saw smoke coming from a field just north of here and went up to find two dozen hippies, their naked kids running around, and fires going. Fire's always a danger in Big Sur." McQueen, 80, is a commanding figure—6-foot-8, size 15 boots. "Some of the newcomers were worthless," he adds, "but some were OK. We were so stuck in the mud around here. The new people shook things up."

I first traveled to Big Sur in the fall of 1963, eager to explore its remote recesses, soon after I began a graduate program at Stanford University. I remember being dazzled by the coastal region's stunning near-verticality. It seemed a mythic landscape of impenetrable chaparral and massive redwoods stitched to headlands plunging into an impossibly blue ocean. Against this backdrop, ordinary concerns seemed to pale; to live here was to view the world through a unique lens of beauty and peril.

Scattered across the land were random clusters of wooden cottages, a few stores and campgrounds, a couple of bars and a gas station or two. The Los Padres National Forest, which includes much of the 6,000-foot-high Santa Lucia Range, edged the highway, where shaggy figures not yet labeled as countercultural stood on the roadside, hooking their thumbs in clear, dry air. At the time, Big Sur still rested in a happy sociological trough between the demise of the Beat Generation and the advent, in 1967, of San Francisco's Summer of Love, a watershed moment that would bring thousands of young people west.

In the intervening years, I returned to Big Sur several times, drawn by the physical beauty and the inspirational jolt that the first glimpse always provides. The place remains for me freighted with as much mystery as reality, intimately associated with the era that McQueen invokes.

McQueen's father, Allen, was a maintenance supervisor for the coast highway built here in the late '30s. Don constructed his own tourist campground along the same road in the '50s. "A few hippies thought they could make a living just by breaking into houses," he tells me, adding that

During the wildfires in the summer of 2008, longtime resident Don McQueen (below: inspecting remaining damage to his heavily wooded property in February) enlisted his two sons—and brought in a bulldozer—to defend the family's 70 acres. "We worked nonstop for four days," he recalls. "What I regret most is the loss of so many redwoods all over Big Sur."

a rougher element, some on motorcycles, hung out in the Redwood Lodge just up the road. "That place had a hard dope problem, with fights. I told the owner I'd clear it out if he wanted." McQueen admits to throwing "some people through windows" and to putting two troublemakers in a car, breaking the vehicle's distributor cap with a hammer, "so they couldn't start the engine," and shoving them downhill in the direction of Carmel, 26 miles to the north.

TODAY, THE REDWOOD LODGE has long since been reborn as Fernwood, still a bar, but decidedly more upscale and friendlier. Big Sur's landscape, however, remains unchanged, wild country that has impressed—or intimidated—visitors since the arrival of the Spanish more than 400 years ago. Early seafarers stayed clear of the rock-toothed *el país grande del sur* (big country of the south), described in 1542 by the explorer Juan Cabrillo: "There are mountains which seem to reach the heavens, and the sea beats on them. . . . It appears as though they would fall on the ships."

In 1770, the Spanish established a presidio and missionary headquarters in Monterey, capital of Alta (Upper) California, and soon founded a mission in Carmel. There, Father Junípero Serra set about enslaving and converting the coastal tribes who lived close by and any Indians who could be enticed from the inner reaches of inhospitable "El Sur."

In the aftermath of the Mexican-American War (1846-48), Mexico ceded California to the United States. In those early years, homesteaders could make a good living by felling redwoods—dangerous work in the steep canyons—and by harvesting tan oaks, used in the hide-tanning process. Supplies arrived in small steam vessels, braving a coast with little safe anchorage; timber went out the same way. The tiny population inhabiting the coast south of Monterey remained scattered.

Despite the fact that Big Sur's lone existing dirt track was hazardous and often washed out in rains or mudslides, a hardy few managed to pass this way. They included homesteaders; tourists who stayed in roughhewed "resorts," run by families like the Pfeiffers, descendants of the original 19th-century settlers; and, in the '20s and '30s, what might be called a new creative class. Among them was the poet Robinson Jeffers, an East Coast transplant who came to Big Sur in 1914 and built two stone houses on a wild spit of land near Carmel, today a National Historic Site. Jeffers, who would be thought of as the poet laureate of the environmental movement, called Big Sur "the noblest thing I have ever seen."

HELMUTH DEETJEN, the son of a deacon in Bremen, Germany, and a Norwegian mother, arrived in Big Sur sometime around 1936, where he bought 60 acres in Castro Canyon and built a small compound that included a house, antiques store and inn. A student of music, philosophy, art and politics, Deetjen had attended Germany's University of Heidelberg, where one of his classmates was an art student named Adolf Hitler. (Deetjen claimed that his last words to Hitler were, "You just don't understand the American cowboy," and fled Europe because he knew what Hitler was capable of.) Deetjen imported a quirky combination of sophistication and hominess to Big Sur, reflected in his quaint Scandinavian-style cottages, constructed of native redwood.

What became a local institution—Deetjen's Big Sur Inn—included a score of snug cottages, heated by wood-burning stoves. (Even today, guests who don't mind roughing it will find Deetjen's cabins to their liking.) Inside the cramped, low-ceilinged main building, pottery, sculpture and paintings, many of them created by a long succession of Big Sur artists, occupied walls and shelves when I arrived here in 1963. The funky display, now invested with a time-warped charm, is still there, just as I first saw it.

"SOME OF THE NEWCOMERS WERE WORTHLESS," DON MCQUEEN SAYS, RECALLING BIG SUR IN THE 1960S. "BUT SOME WERE OK. WE WERE SO STUCK IN THE MUD AROUND HERE. THE NEW PEOPLE SHOOK THINGS UP."

MAP: OLAF HAJEK

Deetjen had built much of the furniture himself. The food served in the little restaurant was basic, but appetizing. Certain attitudes of the '60s seemed to have derived from a quotation that Deetjen had carved into a lintel in the dining room, a passage from Mozart's *Magic Flute*: "Within these sacred portals revenge and hate must cease/The souls of straying mortals in love will find release."

IN 1937, COMPLETION of the coastal highway linking Northern and Southern California marked the biggest change to Big Sur since the arrival of the Spanish conquistadors. Virtually overnight, the still-wild coast had become accessible by car, which brought an influx of even more artists, writers and mavericks of all stripes seeking an alternative to what novelist Henry Miller—a friend of Deetjen's and soon to be Big Sur's most celebrated literary figure—would refer to as America's "air-conditioned nightmare."

Miller had settled in a house on a slope above Partington Canyon, a ravine about four miles south of Deetjen's, in 1944. There he produced *Big Sur and the Oranges of Hi-*

In 1936, German immigrant Helmuth Deetjen (opposite bottom: c. 1960) opened his Big Sur Inn (above: its restaurant). "Guests who don't mind roughing it," writes the author, "will find Deetjen's cabins to their liking." The nearby Henry Miller Library (opposite top: overseen by Magnus Toren) houses the novelist's papers. Miller and Deetjen were friends.

eronymus Bosch, a rambling account of the area's unfettered lifestyle. "The ideal community," he wrote in *Big Sur*, "would be the loose, fluid aggregation of individuals. It would be a God-filled community, even if none of its members believed in God. It would be a paradise." But in 1960 Miller lost his paradise, abandoning his fourth wife, Eva McClure, and two teenage children to go to Europe with Caryl Hill Thomas, a local waitress in her early 20s.

Eventually, in 1981, the Big Sur painter Emil White—a friend of Miller's—donated his redwood house on Highway 1, not far from Partington Canyon, to create the Henry Miller Memorial Library. Housing a trove of Miller's papers, the library today serves as a cultural and educational center. In season, an outdoor screen is raised across the backdrop of mountain and conifers so movies can be shown under the stars. Benefit concerts have featured artists such as Patti Smith, Laurie Anderson, Henry Rollins and Philip Glass. "All part of a mix that Miller would have approved of," says the library's director, Magnus Toren.

Miller's breakthrough novel, *Tropic of Cancer*, had been published in 1934 in Paris, where most of the story was set. The work was hailed by critics, but its explicit sexuality caused it to be banned in the United States until 1964. By then, Miller was being succeeded by the so-called beatnik

writers, including Jack Kerouac, whose *On the Road*, an homage to cross-country road tripping and emergent alternatives to conventional American life, became a must-read for a new, rebellious generation.

Kerouac's friend, poet Lawrence Ferlinghetti, owner of City Lights bookstore in San Francisco and publisher of the poets Allen Ginsberg, Gregory Corso and other Beat writers, had bought a cabin on Bixby Creek in 1960. Ferlinghetti's hideaway was prominently featured in Kerouac's 1962 novel, *Big Sur*, which recounted his brief, alcohol-fueled stay there the year before. Richard Brautigan's surreal *A Confederate General from Big Sur* was another fictional account of his own interlude there in 1961 or so. He described the rugged coast as "that thousand-year-old flophouse for mountain lions . . . that million-year-old skid row for abalone." Not surprisingly, the novel's laid-back, mood-enhanced characters are in rebellion against the status quo, inhabiting a landscape that was fast becoming, he wrote, "a hotbed of Secession."

By the late '60s, Big Sur had become known as the gravitational center of LSD and free love, an image it has never really shed, or even tried to. The Esalen Institute, the spa and self-styled spiritual center that became ground zero of the so-called human potential movement, contributed mightily to that myth. Co-founded by counterculture pioneer Michael Murphy, whose family had acquired some 27 Big Sur acres in 1910, the center was named, with a slight alteration in spelling, for the indigenous Esselen Indians, a tribe that had frequented the hot springs there. (Henry Miller once did his laundry in the springs' bubbling pools, according to local lore. Other notable visitors to the springs included novelist John Steinbeck and British author and social critic Aldous Huxley.)

Murphy's passion was Eastern religions; in 1960 he had

LOWER RIGHT: BROOKE ELGIE

teamed up with Richard Price, a psychology student at Stanford, to create a community where no single religion or philosophy would take precedence. This quickly evolved into a fusion of Eastern and Western traditions, one answer to Huxley's call for the exercise of transcendent "human potentialities." Esalen, which opened its doors in 1962, had an enormous influence on the counterculture tsunami that would partly define the decade. (Huxley would come to be regarded as the intellectual father of that movement.)

In its early days, the Esalen Institute had a staff of six, including Murphy and Price, who had leased the property from Murphy's grandmother. Murphy handled programming and Price oversaw administration. Jeffrey J. Kripal, author of *Esalen: America and the Religion of No Religion*, says that he regards the early days of Esalen as "a kind of magical moment, during which there was a real synergy between a small group of cosmopolitan intellectuals and a vibrant youth culture."

In the beginning, Esalen was open to anyone "and free to good-looking women," says Mary Lu Toren, a professional gardener and wife of Miller Library director Magnus Toren. The original idea, she says, grew out of the Esselen Indians' belief that the baths had healing qualities. Visitors bathed together nude. Scented tapers were placed at the edge of the pools, intended to counter the sulfur fumes seeping from the water. "I can still smell those lovely candles," Toren recalls. "No one talked. You looked out at the ocean, or up at the hills. No negative thoughts were allowed, and the baths weren't for partying."

That came soon enough, along with the ever-increasing presence of drugs, sex and general misbehavior. One night in 1961, so the story goes, Esalen founders Murphy and Price, accompanied by folk singer Joan Baez and some other Esalen regulars, walked to the baths with Dobermans on leashes and dispersed a group of drug-addled revelers from San Francisco who had convened for an orgy.

Esalen evolved into a venue for psychotherapists of every persuasion; proponents of meditative and massage techniques; and academics from many disciplines. Cofounder Price was killed, at age 55, in 1985 by a falling boulder, while hiking in a Big Sur canyon. Many people, says Toren, felt that "with him died an era of honesty and openness, of true spirituality and integrity."

Murphy continued on alone, overseeing Esalen and attempting to put the institute on a more secure financial footing, largely by bringing in more paying guests for workshops and seminars. (Murphy remains involved in Esalen's work but stepped down as chairman in June 2008.)

In 1998, El Niño-induced rains triggered a mudslide that ripped away most of the old Esalen bathhouse. The $5 million replacement cost included hillside stabilization and an earthquake-proof foundation.

Today, workshops are offered for substantial fees in a quirky array of blissed-out topics, from *Harmonic Presence: Primordial Wisdom* to *The Music of the Spheres*. Last year, some 15,000 guests attended Esalen; an all-inclusive weekend stay costs a minimum of $385. Esalen director Gordon Wheeler, a clinical psychologist from Harvard, was hired in 2004 and charged with putting Esalen firmly into the black. "We've always been about personal and social transformation," which, he adds, means developing heightened awareness that "the world's in tough shape," and, as a result, "we have to step up locally as well as globally." As for Big Sur, Wheeler says "it's the land of the individualist and legendary because of that. It's outlaw country."

FROM TIME TO TIME, sections of coast highway pavement, destabilized by torrential winter rains, have plunged into the ocean. (In 1983, a heavy-equipment operator was killed

In 1962, Michael Murphy and Richard Price (top right: c. 1960) founded the Esalen Institute, a self-styled spiritual center, where today one can dine on produce from organic gardens (below) and engage in workshops that may include games (bottom right). The institute "had an enormous influence," writes the author, "on the counterculture tsunami" of the '60s.

UPPER RIGHT: COURTESY OF THE ESALEN INSTITUTE

Big Sur's rugged beauty (above: the view looking north toward Pfeiffer Point) first dazzled the author in 1963. "It seemed a mythic landscape," he writes, "of impenetrable chaparral and massive redwoods stitched to headlands plunging into an impossibly blue ocean. To live here was to view the world through a unique lens of beauty and peril."

during road repairs, after a landslide sent him and the machine over a cliff.) Beginning in the 1960s, Don McQueen helped repair these gaps; McQueen recalls 20-hour workdays, rain so intense that workers couldn't hear each other talk, and a wall of mud slamming down the Little Big Sur River and, in less than a half-hour, washing out the road.

McQueen also worked on Nepenthe, the bar, restaurant and Big Sur landmark named for the forgetfulness potion in Homer's *Odyssey*. Nepenthe opened in 1949 on a point just north of Castro Canyon, on land that had been owned by movie director Orson Welles and his wife, Rita Hayworth. It was patronized not only by locals but also by the likes of Elizabeth Taylor and Richard Burton, much of whose film *The Sandpiper* was shot there. (The 1965 movie concerned a free-spirited single mother living on an isolated stretch of California coastline.) "Nepenthe was incredibly welcoming in the hippie era," says Mary Lu Toren. "Every month, there was an astrological birthday party for locals, with dancing on the deck."

Just down the road, Helmuth Deetjen's Big Sur Inn was transformed into a nonprofit trust following his death, at age 76, in 1972. Today, its upscale menu and romantic setting attract baby boomers and younger couples. Organic Big Sur greens with chanterelles, Scottish salmon and New Zealand venison have replaced what manager Torrey Waag calls "Deetjen's mystery stew." But there is no Wi-Fi for visitors. "If a guest needs to get his e-mail," Waag says, "we send him up the road to the Henry Miller Library."

The Ventana Inn and Spa, which opened in 1975, was Big Sur's first luxury resort. Designed in an artfully rustic style, Ventana transformed Big Sur into a "destination," to the dismay of some locals, many of whom nevertheless showed up to play dominoes at the bar. "Then they got all formal," says a former patron. "Waiters and waitresses were told they couldn't hug their friends anymore when they arrived. [Local] people stopped going."

Across Highway 1, on land once settled in 1848 by New Englander William Brainard Post, lies the posh Post Ranch Inn and its restaurant, Sierra Mar. Guests dine on ahi tuna and braised Kobe beef and gaze upon the ocean and, if they're lucky, gray whales bound for Baja. But beyond the tasteful confines of these resorts, there is unemployment and an acute housing shortage. Craig von Foerster, Sierra Mar's chef, lived in a van at the side of Highway 1 in his early days at the inn. Even today, he adds, "If you drive south toward [the town of] Lucia after 10 p.m., you'll see dozens of cars in the pull-offs. In most of them are the people who do Big Sur's work, asleep."

BIG SUR'S PHYSICAL BEAUTY extends to the 340,000 acres within Los Padres National Forest, a two-million-acre preserve that incorporates the Ventana wilderness on the east-

"BIG SUR'S ALL ABOUT THE MOUNTAINS AND OCEAN, AND THE INTERFACE OF THE TWO," SAYS BRUCE EMMENS, A 30-YEAR VETERAN OF THE FOREST SERVICE, WHO IS DRIVING ME TO A VIEW OF MASSIVE GREEN HEADLANDS.

In 1949, Lolly and Bill Fassett (above right: the couple in 1950 with writer Henry Miller, far right) opened Nepenthe (above left: the restaurant today; top right: a scene from *The Sandpiper*, shot there in 1964). "Nepenthe was incredibly welcoming in the hippie era," says Big Sur's Mary Lu Toren. "Every month, there was an astrological birthday party."

ern side of Big Sur's mountain ridge. Yet this backcountry, attainable only by several hours of difficult hiking, is rarely seen by visitors or residents. (A dirt road maintained by the U.S. Forest Service is closed to traffic.)

"Big Sur's all about the mountains and ocean, and the interface of the two," says Bruce Emmens, a 30-year veteran of the Forest Service, who is driving me to a view of massive green headlands, sunk like giant claws into the deep-blue Pacific. As he pulls the SUV to a stop, off to the left eight condors glide on thermals fed by a relentless sun.

Part of Emmens' job is helping to work out agreements that allow the federal government to acquire additional property and remove it from development. In 2002, for example, he participated in the largest recent transaction, a deal that transferred 1,200 acres of the old Brazil Ranch to public ownership, thereby providing the Forest Service access to the ocean and blocking plans for a hotel and condominiums. Some 500,000 acres in and around Big Sur were already protected by complex agreements involving both public and private entities. (Even so, palatial, if tasteful, houses continue to be built in prime spots, usually out of sight of the road, for owners including media mogul Ted Turner and television producer Paul Witt.)

IN 2006, DAVID ZIMMERMAN took Buddhist vows at the Zen Center in San Francisco. Today, he is the monk who directs Tassajara, the first Zen monastery founded in the United States. "Tassajara," he says, "is the Esselen word for 'a place to dry meat.'" (It is believed that the Indians used the site for this purpose.) Today, as many as 70 monks offer sanctuary to up to 85 guests at a time at Tassajara. Most stay for a few days. Some 5,000 pilgrims annually descend the bone-jarring dirt road to the monastery. Douglas and Anna, two self-described "life coaches" from San Rafael, California, are partaking of its amenities for half the $157 per person daily rate by chopping vegetables—"lots of onions"—in the morning. Afternoons, they swim in the crystal-clear water of the narrows on Tassajara Creek, or soak in the hot-springs-fed bathhouse.

Visitors are invited to follow the rhythms of the monastery: mornings filled with meditation; the sounds of chanting; and the ringing of a bell summoning guests to meals. At 8:30 p.m., a call to meditation sounds in the dimly lit *zendo*, or meditation hall, where a monk assigns everyone to a cushion facing the wall. The whisper of bare feet on creaking floorboards is the only sound, followed by soft bell strikes, then 40 minutes of silence. A light tapping on a drum and the muted ringing of a bell

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Writer **JAMES CONAWAY***'s most recent book is* Vanishing America: In Pursuit of Our Elusive Landscapes. *Photographer* **CATHERINE KARNOW** *is based in Mill Valley, California.*

UPPER AND LOWER RIGHT: COURTESY OF NEPENTHE RESTAURANT (2)

signal the end of meditation. Outside, the night is dark, cold and exhilarating. "It gets in your blood," says Zimmerman.

THE ROAD LEADING UP TO Partington Ridge follows a steep, twisting trajectory, rising from Highway 1 through coastal scrub—manzanita and yellow-blooming chamise—past a hand-lettered sign that dates to the '60s: "Caution: children, dogs, horses, poets, artists, and flowers at play."

Kevin and Jeannie Alexander, their 10-year-old son, Ryin, and 13-year-old daughter, Kaili, live in a 1920s house on the ridge that Kevin, a successful builder, is expanding. Kevin grew up in Big Sur as part of an itinerant family living in shacks, bathing free at the old Esalen and pouring cold water over his head in the mornings—the family equivalent of a shower. "We liked to keep things simple," he says.

"The old Big Sur values are dying off," Jeannie tells me. "Poets, artists and beatniks used to live off the land. They could just squat on a place and write a letter to the owner, who would write back and say, 'Great. Just keep an eye on it.' Some new owners just move their old lives into new multi-million-dollar houses. The paradox is that rich people provide some jobs for those who stayed." In recent years, she adds, "we've

In June 2008, a forest fire (below) engulfed Big Sur. At the Tassajara Zen monastery (above left) firefighters and monks joined forces to save the complex. Today, ranger Bruce Emmens (above right) surveys new growth in the charred forest. "The heat was so intense," recalls resident Kevin Alexander, "it melted the gutters on one house" near his own.

BOTTOM: KODIAK GREENWOOD

Members of the Alexander family (from top: husband Kevin; 10-year-old son, Ryin; wife Jeannie; and 13-year-old daughter, Kaili) are longtime residents who live on a remote ridge. "I see a difference in the kids up here," says Jeannie. "There's no television, no mall, no cellphone. They read a lot. They've got a feel for the land that kids in town don't have."

lost 50 percent of the locals, as people sell out. Most service jobs are done now by recently arrived Hispanics; their children make up more than half the primary-school students."

The Alexanders say they are thankful for a life that they perceive as at odds with the American norm. "I see a difference in the kids up here," says Jeannie. "There's no television, no mall, no cellphone. They read a lot. They've got a feel for the land that kids in town don't have."

ON JUNE 21, 2008, Mary Lu Toren, who lives down the road from the Alexanders, was gardening at a neighbor's house when, she recalls, "I saw clouds rolling in from the Pacific, lashed by electrical charges, dark, beautiful and scary. I knew what was coming."

What was coming was lightning. Kevin Alexander witnessed the first strike in a meadow across the canyon. "It was the loudest clap I've ever heard," he says. "Immediately flames came up, and I called it in." Firefighters were soon battling the downhill creep of a rapidly expanding fire; during the night it moved around the head of the canyon."I cut some trees to act as a firebreak, but the heat was so intense it melted the gutters on one house."

Last summer's Big Sur wildfire, which soon became known as the Basin Complex fire, put the coastline in jeopardy—and in the news. Winds fueled the blaze, pushing it down several mountainsides overlooking the Pacific. Helicopters dumped seawater, and two big Coast Guard planes spread fire retardant, but the sky turned orange and the air acrid. Cinders the size of dinner plates fell on the deck of Nepenthe. The little hamlet of Big Sur, as well as the state parks and many houses, lay directly in the fire's path.

Don McQueen quickly bought a $150,000 bulldozer and brought in his two sons, both of whom were living in England, to defend the family's 70 acres. "We worked nonstop for four days," he recalls, piloting his all-terrain vehicle up a steep service road above his house. Today, downslope, an eerie, ashen defile, once dense forest, is now punctuated with blackened tree trunks. "What I regret most," McQueen adds, "is the loss of so many redwoods all over Big Sur. That means massive mudslides when the rains come."

The fire lasted for more than five weeks, burned nearly 163,000 acres, consumed 26 Big Sur houses and scorched entire mountainsides. Fighting the fire cost the state and other agencies $77 million. The town of Big Sur was spared, as was the Ventana Inn—firefighters there were fed from the gourmet kitchen—Deetjen's and the Henry Miller Library. Because Highway 1 acted as a firebreak, the Post Ranch Inn, Nepenthe and Esalen—all on the ocean side of the road—also survived. In the backcountry, Tassajara lay in the path of another fire but was saved by the efforts of monks and firefighters, who wrapped the buildings in flame-retardant sheathing.

While Henry Miller's former residence was also saved, along with the house of Mary Lu Toren and her husband, Magnus, tongues of blackened earth still lick at the borders of all the properties. Many residents of Partington Ridge began laying in provisions—lentils, brown rice, powdered milk, gasoline—in anticipation of what they believed might well be the fire's aftermath: rain-fueled landslides.

The rains of 2009, so far, have turned out to be mercifully light. Residents, including Mary Lu Toren, hope that a second catastrophe will not materialize. "Look," she says, pointing to a redwood sprig in the scorched earth near her house. "New growth's already pushing through the ashes."

FIRE POWER

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Harboring History

IN FLORIDA'S PANHANDLE, VIBRANT PENSACOLA STAKES ITS CLAIM AS THE OLDEST EUROPEAN SETTLEMENT IN THE UNITED STATES

BY DONOVAN WEBSTER

It's late afternoon in Gulf Islands National Seashore. Along some 20 miles of pristine ocean-front beaches here in northwest Florida, the water is crystal clear; one can wade into gentle surf to peer down at starfish and sand dollars. Pelicans and sea gulls wheel across the sky. Dolphins pop up above the waves, their sharp dorsal fins silhouetted against a horizon where the turquoise Gulf of Mexico meets an iridescent blue sky.

The unspoiled shoreline is virtually unaltered from the time Spanish explorers first made landfall here nearly five centuries ago. Yet this marine wilderness lies only a few minutes' drive from the center of Pensacola, the lively and historic city of 56,000 at the westernmost tip of the Florida panhandle on the border with Alabama. Pensacola boasts a surprisingly little-known past: it is the site of the nation's oldest European settlement.

This year, the city is marking its 450th anniversary with an ongoing birthday bash. "No matter when visitors show up, we'll be throwing a party," says Laura Lee of the local visitors bureau. "My favorite, Fiesta Days, honors the founding of Pensacola." The festival, June 4-11, will feature parades and historical reenactments. Another highlight was the arrival this past February

Pensacola, its anchorage first admired by the Spanish 450 years ago, today attracts tourists (above: a 1930s postcard). In 1686, Spanish navigator Juan Jordán described Pensacola's bay as "the best I have ever seen."

of King Juan Carlos I and Queen Sofia of Spain. Flanked by Governor Charlie Crist and before a crowd of 3,000, the Spanish monarch lauded the heritage of a city "which contains so much of the shared history of Spain and the United States."

It's all Pensacola's way of drawing attention to a largely forgotten chapter in American history. In August 1559, Spanish explorer Tristán de Luna sailed into what would one day be known as Pensacola Bay. (A local tribe called the region *Panzacola*, perhaps meaning "long-haired people," as the indigenous inhabitants may have been known.) Spain's viceroy of Mexico, Luis de Velasco, had charged Luna with establishing a settlement on the bay, reconnoitered by Spanish navigators the previous year. Nearly a century later, Mexican scholar Carlos de Sigüenza y Góngora would describe Pensacola's natural harbor as "the finest jewel possessed by His Majesty . . . not only here in America but in all his kingdom."

Luna commanded a fleet of 11 vessels and some 1,500 settlers, including African slaves and Mexican Indians, many of them craftsmen. "Here in Pensacola, three distinct cultures arrived in North America at the same time," says James M. James, the former executive director of the African American Heritage Society, a local nonprofit organization. "That's very unusual in U.S. history, but it's also just how things were—and still are—in Pensacola. We've always had different cultures living together in this beautiful place."

BY PREVENTING THE SPANISH FROM ESTABLISHING A FOOTHOLD IN WESTERN FLORIDA, THE HURRICANE IN 1559 "CHANGED HISTORY," SAYS LOCAL AUTHOR JOHN APPLEYARD.

On February 19, King Juan Carlos I and Queen Sofia of Spain (right: at Pensacola's Wentworth Museum, flanked on left by Governor Charlie Crist) celebrated the city's 450th birthday. The monarch lauded the unique heritage of a city "which contains so much of the shared history of Spain and the United States."

Luna's contingent arrived in Pensacola six years before Adm. Pedro Menéndez de Avilés reached Florida's Atlantic Coast, where he would found St. Augustine, still widely regarded as the oldest city in the United States, probably because the Menéndez colony endured. (Columbus never reached what would become the United States.) Luna's colony would not fare as well: on September 19, 1559, only weeks after he dropped anchor, a powerful hurricane blew in from across the bay, sinking all but three of Luna's ships. By preventing the Spanish from establishing a foothold in western Florida, says local historian and author John Appleyard, "that storm changed history."

Luna dispatched a remaining ship to Veracruz, Mexico, in hopes of enlisting rescuers. For more than a year, the settlers hung on, their numbers and stores dwindling. At last, some vessels arrived to transport survivors to safe haven in Havana. By spring of 1561, only a military outpost remained; in August, its handful of soldiers abandoned the site and returned to Mexico.

It wasn't until 1698 that Spain established another garri-

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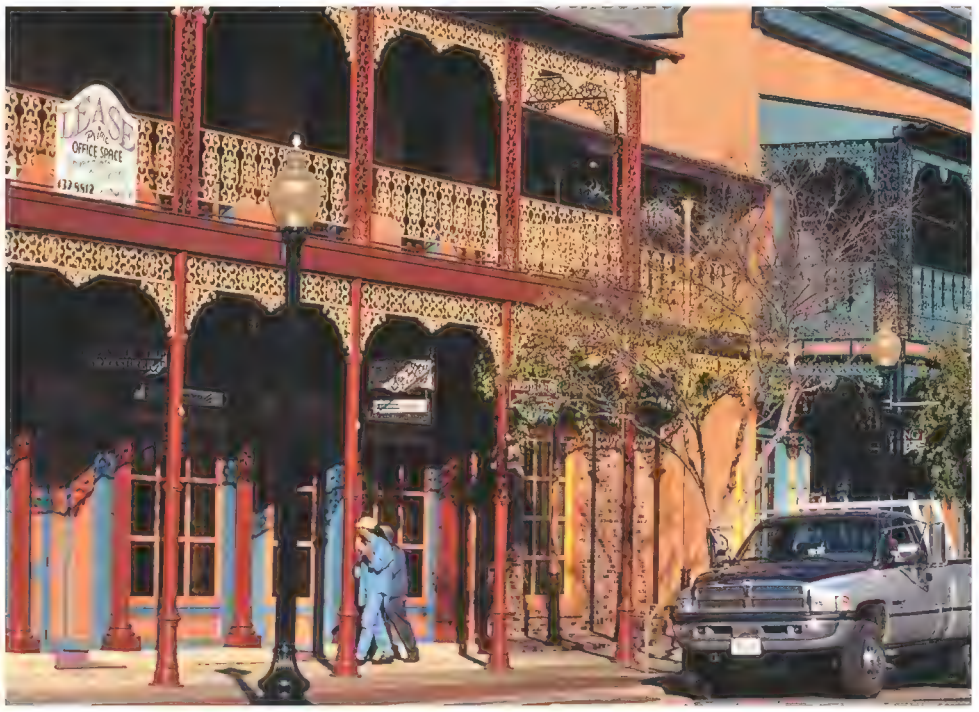
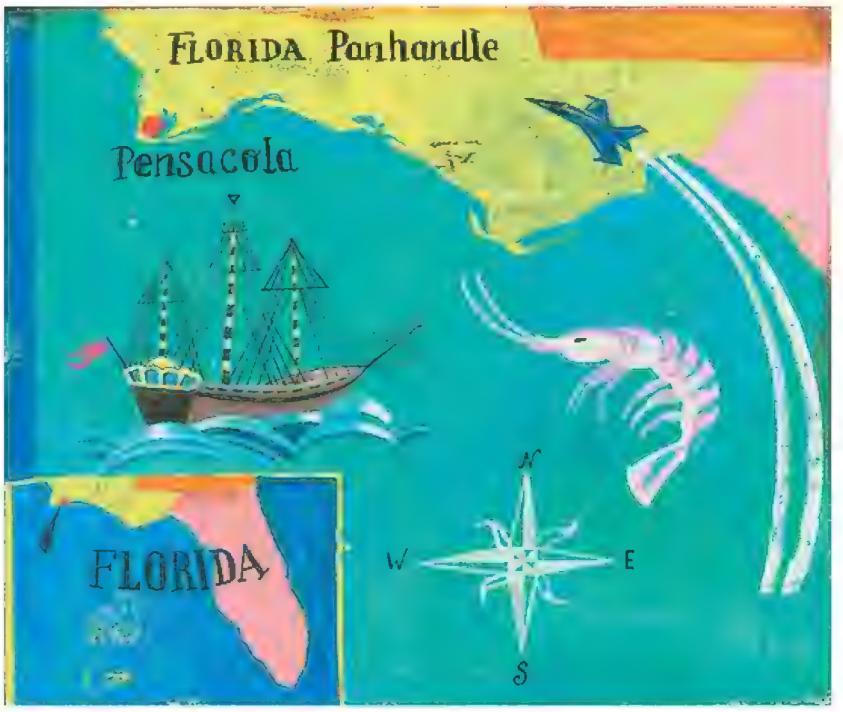
MARI DARR-WELCH / AP IMAGES; P. 70-71 LEE CELANO; PP. 68-69 GUILLEN PHOTOGRAPHY / TRAVEL / USA / FLORIDA / ALAMY; P. 69 LAKE COUNTY MUSEUM / CORBIS





PETER HORREE / ALAMY; MAP: OLAF HAJEK

or stucco and replete with intricate ironwork verandas and interior courtyards, reflect Spanish and Gallic influences. After succeeding the Spanish in 1763, the British built cottages of traditional timber, clapboard and brick and laid down the street grid visible today. The heart of the old colonial downtown is Palafox Street, running through its center and now boasting a mix of trendy shops, restaurants and galleries. The town's original wharf was at one end of Palafox, according to Tim Roberts, historic preservationist for the historic quarter.

Pensacola's rich history has spawned a passion for the past. For more than 20 years, archaeologists from Pensacola's University of West Florida have conducted digs at several city sites. Since 2006, the Florida Public Archaeology Network (FPAN), an education and outreach organization, has also participated in excavations. It's not only scientists who are at work: volunteers—locals and even tourists—can sign on to help for a day or a decade. Twice weekly, FPAN staff offer training in the processing of artifacts. "Even if you have only a few hours to volunteer, we can put you to work: screening dirt, washing artifacts, sorting them. We want people to engage their past," says archaeologist Della Scott-Ireton, director of FPAN's Northwest Regional Center. Says University of West Florida archaeologist Margo Stringfield, "With all this history we've yet to uncover, there's still a lot of work to do."

Historic Pensacola (left: a district of tranquil squares; below left: 1800s buildings) reflects successive waves of settlers, including the Spanish and French. Says James M. James, formerly of the city's African-American Heritage Society, "We've always had different cultures living in this beautiful place."

son in Pensacola, where soldiers began to lay out a colonial town. In May 1719, Spaniards in Pensacola surrendered to the French, who were at war with Spain. Over the next century, a succession of competing powers—French, Spanish, British, then Spanish once more—would plant their flags in Pensacola sand until, in 1821, Spain ceded Florida to the United States.

TODAY, A HISTORIC DISTRICT of parks and plazas roughly 40 blocks square, shaded by old live oaks, reflects the city's diversity. On streets that recall New Orleans' French Quarter, early and mid-19th-century houses, constructed of brick

At St. Michael's Cemetery, an eight-acre oasis of calm dotted by magnolia trees and crisscrossed by gravel paths, archaeologists are using ground-penetrating radar to map sites of the deepest, oldest graves, most of which are un-

marked. The Spanish began conducting burials as early as the mid-1700s at the site, where, evidence suggests, colonialists and slaves lie side by side. (Because the cemetery is still in use, only limited excavations are allowed. Archaeologists, however, analyze artifacts as they surface—for example, during storms trees have been uprooted, revealing cannonballs and grapeshot.) That is "one of the great things about living in a city this old," says Stringfield. "You're reminded that history is very much still with us."

IN 1914, THE U.S. NAVY constructed a new installation, the Pensacola Naval Aeronautical Station, on the grounds of a U.S. naval shipyard on Pensacola Bay. (President John Quincy Adams, recognizing the bay's strategic potential, had ordered the establishment of the shipyard in 1825.) At any given time, some 12,000 active military personnel are assigned to today's Naval Air Station, 9,000 of them in aviation training. The Air Station is also home to the National Naval Aviation Museum, dedicated to Navy, Marine Corps and Coast Guard flight.

Across the city, archaeologists conduct ongoing digs (below: Elizabeth Benchley of the University of West Florida excavating an 1800s foundation). "One of the great things about living in a city this old," says archaeologist Margo Stringfield, is that "you're reminded that history is still very much with us."

The 300,000-square-foot complex, where one can stroll through a recreated World War I aviation camp or sit in the training cockpit of a Vietnam-era Sea Cobra helicopter, houses more than 100 vintage aircraft. "One of my favorite things here," says museum volunteer coordinator Phil Duryea, "is an inflatable aircraft made by Goodyear in the 1950s. It all came packed inside a single crate, complete with an engine and an inflation compressor. If you were a pilot downed behind enemy lines, we'd drop this aircraft to you in a crate on a flyover, and you'd spread it out and inflate it—and fly away to safety. It's pretty amazing."

Not long ago, Duryea led some of Jimmy Doolittle's Raiders, the B-25 bomber crews who took off from the aircraft carrier USS *Hornet* in April 1942 to attack oil and navy installations in Japan. "As I was telling them about the museum," Duryea says, "they were telling me about what it had been like to fly the first raid on Japan."

STILL, PENSACOLA ISN'T ALL history-steeped excursions or placid beaches. Several miles west of downtown, on a barrier-island strip of sand, Perdido Key, lies another local landmark. The Flora-Bama (for its location at the Florida-Alabama state

LEE CELANO (2)

Watch the excavation of a 16th-century shipwreck at Smithsonian.com/pensacola

A COUPLE OF SKY DIVERS PLUMMETED OUT OF THE SKY TO LAND ON THE BEACH. FOLDING THEIR PARACHUTES, THEY AMBLED ACROSS THE SAND TO PLACE AN ORDER AT THE BAR.

Whether in the skies (top: the Navy's Blue Angels practice maneuvers) or on the beaches (center: at Perdido Key's Flora-Bama, singer Elaine Petty performs), Pensacola's wide-open spaces beckon. "Every day," says fishing guide Baz Yelverton (aboard his boat), "I get to come out into this huge wilderness."

LEE CELANO; PP. 72-73 U.S. NAVY

available anywhere, though. So if it was fresh seafood they were after, we got that covered."

On a recent afternoon, in the midst of the Flora-Bama's laid-back chaos, a couple of sky divers suddenly plummeted out of the sky to land on the beach. Folding their parachutes into jump harnesses, they ambled across the sand to place an order at the bar, still wearing their jumpsuits. No one looked twice.

"YOU KNOW, YOU CAN GET ANY WATER or beach experience you want around here," says local fishing guide Baz Yelverton. "You can fish the surf or the points where Pensacola Bay runs into the Gulf of Mexico. Farther north and east, freshwater creeks and rivers are running into the bay. That water is clean, nutrient rich and full of life."

We're aboard Yelverton's 21-foot outboard motorboat near the mouth of Pensacola Bay, in search of redfish and false-albacore. Beneath a cloudless blue sky at dusk, with virtually no one visible on nearby stretches of beach, the water glimmers a translucent aquamarine. The beaches are so pristine that four of the world's seven species of sea turtle nest here.

Yelverton, a local lad who had a successful career as a laboratory supplies executive in California and Seattle, returned to Pensacola 20 years ago. "I came home," he says, "and it was the best decision I've ever made. Every day, I get to come out into this huge wilderness. There's always something new going on out here."

As if on cue, a pair of fighter jets roars into the sky from the Naval Air Station. The sleek aircraft glint in the sunset as the shimmering twilight flatness of the Gulf spreads out ahead of us.

"See what I mean," Yelverton adds. "On Tuesdays and Thursdays, all summer long, the Blue Angels [the Navy's aerial demonstration squadron] are out here, practicing their precision moves right over our heads as we fish." He pauses, gazing at the horizon. "To be out here while that's going on," he says, "well, that's pretty darned cool."

line) restaurant is perched between the island's lone strip of highway and a beach where the sand is white as sugar. At the jumble of shacks connected by roofed walkways, where the good times have rolled since the 1960s, bands on multiple stages are a nightly draw and the menu features fresh-shucked oysters and spicy boiled shrimp. "You know the magazine *Bon Appétit*?" asks Pat McClellan, one of Flora-Bama's owners. "Well, they listed us as one of the best over-the-counter restaurants in the country. I figure they must have had a few beers and soaked in the atmosphere, and that's what swayed 'em. We do concentrate on the freshest seafood

Chicago Eats

SMOTHERED PORK CHOPS ON THE SOUTH SIDE. *BABA GHANOUJ* IN ALBANY PARK. WHITE BORSCHT ON POLISH BROADWAY. OUR RAVENOUS REPORTER TASTES HIS WAY THROUGH THE CITY'S EXTRAORDINARY ETHNIC NEIGHBORHOODS

BY JAMIE KATZ

The predominantly Mexican Pilsen neighborhood (above) was once predominantly Czech. Across Chicago, says Juana Guzman of Pilsen's National Museum of Mexican Art, "food is an important cultural anchor."

DESTINATION America

The people of Chicago, that stormy, husky,

brawling kind of town, sure know how to tie on the feed bag. Has any other American city patented so many signature foods? There's deep-dish pizza, smoky Polish sausages, Italian beef sandwiches au jus, and, of course, the classic Chicago-style hot dog: pure Vienna Beef on a warm poppy-seed bun with mustard, relish, pickled peppers, onions, tomato slices, a quartered dill pickle and a dash of celery salt. Alter the formula (or ask for ketchup) and you can head right back to Coney Island, pal. For better or worse, it was Chicago that transformed the Midwest's vast bounty of grains, livestock and dairy foods into Kraft cheese, Cracker Jack and Oscar Mayer wieners. And in recent years, emerging from its role as chuck wagon to the masses, Chicago finally bulled its way into the hallowed precincts of haute cuisine, led by renowned chefs Charlie Trotter, Rick Bayless and Grant Achatz, who's one of the forerunners of a movement known as molecular gastronomy. "They hate the term, but that's how people refer to it," says Mike Sula, a food columnist for the weekly *Chicago Reader*. "They like to call it 'techno-emotional cuisine.'" But does it taste good? "Oh yeah," he says.

Sula filled me in during a Sunday morning stroll through the historic Maxwell Street Market (now transplanted to Desplaines Street) on the Near West Side. We weren't there for the cutting-edge cuisine, but something much older and more fundamental. Call it street food, peasant food, a taste of home—by any name, Maxwell Street has been serving it up for a long time. So it made sense to include the market on my exploration of what may be the richest of Chicago's culinary treasures: the authentic, old-country eateries scattered throughout the city's ethnic neighborhoods.

In 1951, author Nelson Algren wrote of Chicago streets "where the shadow of the tavern and the shadow of the church form a single dark and double-walled dead end." Yet President Barack Obama's hometown is also a city of hope. Visionaries, reformers, poets and writers, from Theodore Dreiser and Carl Sandburg to Richard Wright, Saul Bellow and Stuart Dybek, have found inspiration here, and Chicago has beckoned to an extraordinary range of peoples—German, Irish, Greek, Swedish, Chinese, Arab, Korean and East African, among many, many others. For each, food is a powerful vessel of shared traditions, a direct pipeline into the soul of a community. Choosing just a few to sample is an exercise in random discovery.

MAXWELL STREET has long occupied a special place in immigrant lore. For decades, the area had a predominantly Jewish flavor; jazzman Benny Goodman, Supreme Court Justice Arthur Goldberg, boxing champ and World War II hero Barney Ross, not to mention Oswald assassin Jack Ruby, all grew up nearby. Infomercial king Ron Popeil ("But wait, there's more!") started out hawking gadgets here. African-Americans also figure prominently in the street's history, most memorably through performances by bluesmen like Muddy Waters, Big Bill Broonzy and Junior Wells. Today, the market crackles

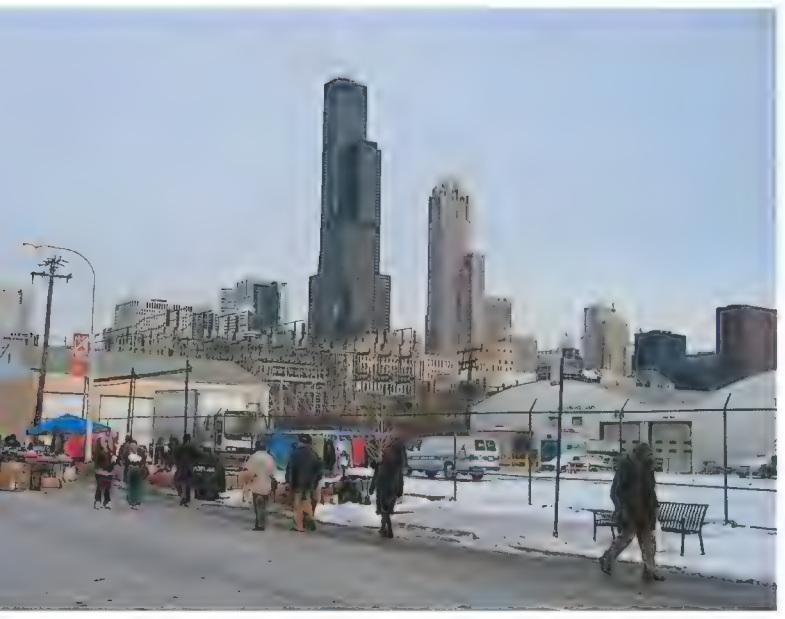
TIM KLEIN; HULTON-DEUTSCH COLLECTION / CORBIS; PP. 74-75 TIM KLEIN

with Mexican energy—and the alluring aromas of Oaxaca and Aguascalientes. "There's a great range of regional Mexican dishes, mostly *antojitos*, or little snacks," Sula said. "You get *churros*, sort of extruded, sugared, fried dough, right out of the oil, fresh—they haven't been sitting around. And *champurrado*, a thick corn-based, chocolaty drink, perfect for a cold day."

As flea markets go, Maxwell Street is less London's Portobello Road than something out of Vittorio De Sica's *Bicycle Thief*, with mounds of used tires, power tools, bootleg videos, baby strollers, tube socks and lug wrenches—a poor man's Wal-Mart. A vendor nicknamed Vincent the Tape Man offers packing materials of every description, from little hockey pucks of electrical tape to jumbo rolls that could double as barbell weights.

THE CULTURAL HEART of Chicago's widely dispersed Mexican community is Pilsen, an older neighborhood close to Maxwell Street that was once dominated by Czechs who worked in the city's mills and sweatshops. Many of its solid, artfully embellished buildings look as if they might have been transported brick by brick from old Bohemia, but the area's fiercely colored murals are an unmistakably Mexican declaration of cultural pride and political consciousness.

"Pilsen has a long history of advocacy," said Juana Guzman, vice president of the National Museum of Mexican Art, as we passed the 16th Street Viaduct, the scene of deadly clashes between police and striking railroad workers in 1877. The museum, too, sees itself as activist. "Yes, we're interested in arts programming and artistic displays, but we're also interested in being at the table when there are critical issues impacting our community, such as gentrification," Guzman said. "What brings us all together, of course, is arts and culture—and a big part of that is food."



Maxwell Street Market lies near Pilsen (map), home to outdoor art inspired by Hispanic cultures (opposite top). The open-air emporium (above from far left: in 1925; as it appears today; signage created after moving a few blocks in 1994; taco, a signature offering) is known for its street snacks. Food writer Mike Sula extols "fantastic" banana-leaf-wrapped tamales.

Sula and I sampled some *huaraches*, thin handmade tortillas covered with a potato-chorizo mix, refried beans, grated *cotija* cheese and mushroomy *huitlacoche*, also known as corn smut or Mexican truffles—depending on whether you regard this inky fungus as blight or delight. Sula said he was sorry we hadn't been able to find something more transcendent.

"Usually there's a Oaxacan tamale stand where they have the regular corn husk–steamed tamales, plus a flatter, larger version wrapped in a banana leaf—those are fantastic," he said. "Another thing I'm disappointed not to see today is something called *machitos*, kind of a Mexican haggis. It's sausage, pork or lamb, done in a pig's stomach."

Sula doesn't fool around.

We drove to La Condesa restaurant, on South Ashland Avenue, not far from the White Sox ballpark. What does it mean to support the White Sox versus the Cubs, I asked. "War!" Guzman shot back, laughing. "Sox fans are blue-collar, Cubs fans are yuppies." And La Condesa was the real deal, she promised. "It's the kind of place where the community and politicians come to meet: people who work in the factories, business people, the alderman. It's more full-service than a lot of places—they have parking, they take credit cards. But they make all their food fresh, and it's well done."

MAP: OLAF HAJEK; JAMIE KATZ; SANDY FELSENTHAL / CORBIS; DAN S. TONG

Owner George Koril (in window) serves Assyrian specialties at George's Kabab Grill in the North Side's Albany Park. His cousin, Kamel Botres, is one of seven brothers who all spell their last name differently.

All true, I quickly learned. The tortilla chips were right out of the oven. The guacamole had a creamy, buttery texture. With a dollop of salsa and a few drops of lime, it was a deep experience. Guzman is more of a purist. "To me, nothing is more wonderful than the natural state of a Mexican avocado," she said. "A little salt, and you're in heaven."

As I gorged on green, out came a huge bowl of *ceviche*—citrus-marinated shrimp in a mildly hot red sauce with fresh cilantro. This was getting serious.

I carved into a juicy slice of *cecina estilo guerrero*—a marinated skirt steak pounded very thin—and Guzman had *pollo en mole negro*, chicken covered with mole sauce—a complex, sweet-smoky blend of red ancho chili, chocolate and pureed nuts and spices—all washed down by tall fountain glasses of *horchata* (rice milk) and *agua de jamaica*, a cranberry-like iced tea made from the sepals of hibiscus flowers. *Buen provecho*! Or, as we say another way, *bon appétit*!

POP QUIZ: Which of the following ancient peoples is not only *not* extinct, but today comprises a worldwide community 3.5 million strong, with around 400,000 in the United States and some 80,000 in the Chicago area?

a) the Hittites
b) the Phoenicians
c) the Assyrians
d) the Babylonians

If you flub this question, take heart from the fact that not one of my well-informed New York City friends correctly answered (c)—the Assyrians, proud descendants of the folks who wrote their grocery lists in cuneiform. After repeated massacres in their native Iraq between the world wars, many members of this Christian minority—who continue to speak a form of Aramaic rooted in biblical times—fled to the United States.

I zeroed in on an Assyrian restaurant, Mataam al-Mataam, in Albany Park, on the North Side. With me were Evelyn Thompson, well-known for her ethnic grocery tours of Chicago, and her equally food-loving husband, Dan Tong, a photographer and former neuroscientist. When we arrived, we learned that Mataam had just relocated and was not yet officially open, but it was filled with men drinking coffee and pulling up chairs to watch an Oscar De La Hoya welterweight bout on a ginormous flat-screen TV. The

BRIAN SMALE (2)

owner, Kamel Botres, greeted us warmly, told a few stories—he's one of seven brothers who all spell their last name differently—and suggested we dine next-door at his cousin's place, George's Kabab Grill.

There we feasted on fresh *baba ghanouj* with black olives and paprika; a plate of *torshi*, or pickled vegetables; two soups—white lima bean and okra-tomato; charbroiled lamb shish kebab and spiced ground beef kefta kebab sprinkled with (nonpoisonous) sumac, each accompanied by heaps of perfectly done basmati rice served with parsley and lemon—and, best of all, *masgouf*, a curry-flavored grilled catfish smothered in tomatoes and onions.

Meanwhile, the owner, George Koril, kept busy constructing a fresh ziggurat of *shawarma*, layering slabs of thinly sliced raw beef onto a vertical spit capped by a ripe tomato. To me it looked like the Tower of Babel.

EARLIER THAT EVENING, Evelyn Thompson had guided me through a fair sampling of the ethnic groceries that are, so to speak, her bread and butter. Nowhere is Chicago's diversity more evident than on West Devon Avenue, which has become the main thoroughfare of the South Asian community. Devon is so well known in India that villagers in remote parts of Gujarat recognize the name.

But it's not all about India and Pakistan. Crammed with restaurants, markets and shops, neon-lit Devon induces a kind of ethnic vertigo. There's La Unica market, founded by Cubans and now sporting Colombian colors; Zapp Thai Restaurant, which used to be a kosher Chinese place; Zabiha, a halal meat market next-door to Hashalom, a Moroccan Jewish restaurant. There's the Devon Market, offering Turkish, Balkan and Bulgarian specialties; pickled Bosnian cabbages; wines from Hungary, Georgia and Germany; and fresh figs, green almonds, pomegranates, persimmons and cactus paddles. And finally, Patel Brothers—flagship of a nationwide chain of 41 Indian groceries, including branches in Mississippi, Utah and Oregon—with 20 varieties of rice, a fresh chutney bar and hundreds of cubbyholes filled with every spice known to humanity. Patel Brothers was the first Indian store on Devon, in 1974, and co-founder Tulsi Patel still patrols the aisles. "He's a very accessible guy, and both he and his brother Mafat have been very active philanthropically," said Colleen Taylor Sen, author of *Food Culture in India*, who lives nearby.

Colleen and her husband, Ashish, a retired professor and government official, accompanied me to Bhabi's Kitchen, a terrific place just off Devon. "This one has some dishes that you don't find at other Indian restaurants," said Colleen.

"I'm originally from Hyderabad, in the southern part of India," said Bhabi's owner, Qudratullah Syed. "Both northern Indian cuisine and my hometown are represented in here." He's especially proud of his traditional Indian breads—the menu lists 20 varieties made with six different flours. "The sorghum and millet are totally free of gluten, no starch. You might not find these breads, even in India," he said.

Months later, I'm still craving his pistachio naan, made with dried fruits and a dusting of confectioners' sugar.

LET'S TALK ABOUT POLITICS AND FOOD. Specifically, what are President Obama's favorite Chicago haunts? I had occasion to ask him about this a few years ago, and the first name

Throughout the city, an array of dishes offer a taste of the city's diversity (below from far left: curried catfish at George's Kabab Grill; Indian eggplant in spicy sauce at Bhabi's Kitchen; rolled stuffed pork, a Polish delicacy, at Podhalanka). In Chicago, the author writes, "food is a powerful vessel of shared traditions, a direct pipeline into the soul of a community."

GEORGE KEPT BUSY CONSTRUCTING A FRESH ZIGGURAT OF *SHAWARMA*, LAYERING SLABS OF THINLY SLICED RAW BEEF ONTO A VERTICAL SPIT CAPPED BY A RIPE TOMATO. TO ME IT LOOKED LIKE THE TOWER OF BABEL.

BRIAN SMALE (2)

In a city boasting the largest Polish population outside of Warsaw, Helena Madej (at Podhalanka) creates dishes, including white borscht, based on traditional recipes. She learned to make the soup, she says, from "my grandma."

that popped out was a fine Mexican restaurant, now shuttered, called Chilpancingo. He has also been seen at Rick Bayless' Topolobampo and at Spiaggia, where he celebrates romantic milestones with Michelle. The Obamas are loyal, as well, to the thin-crusted pies at Italian Fiesta Pizzeria in Hyde Park. And the president was a regular at the Valois Cafeteria on 53rd Street. "On the day after the election, they offered free breakfast," said my friend Marcia Lovett, an admissions recruiter for Northern Michigan University, who lives nearby. "The line went all the way around the corner."

And how about soul food, that traditional staple of Chicago's black community? For that, Obama said his favorite was MacArthur's, on the West Side. Still, there are a number of African-American restaurants that can lay some claim to the Obama mantle. Lovett and I headed for one of the best known, Izola's, on the South Side. We were joined by Roderick Hawkins, director of communications for the Chicago Urban League.

Izola's main dining room confronts you with large blowup photos of former Chicago Mayor Harold Washington, United States Representative Charles Hayes and other local luminaries. Then-Congressman Washington made the decision to run for mayor in 1983 while dining with Hayes at Table 14, said Izola White, who has presided over her restaurant for 52 years. "Harold called me over, he said, 'Come here,'" White recalled. "So I come over and he said, 'Charlie's taking my seat, and I'm gonna run for mayor.' So that was it."

There's a definite clubhouse feel to the place, and a great jukebox never hurts—a compilation CD titled "Izola's Favorites" features Dizzy Gillespie, Alicia Keys and the First Church of Deliverance Choir. Asked what draws him here, Bill Humphrey, a retired policeman, said, "The friendship, the fellowship. It's like a home away from home." And, oh yes, the food. "My favorite is the breakfast—the scrambled eggs with hot links sausage, which you don't get anywhere else," he said. "And I love Izola's smothered pork chops and the short ribs. If you don't see it on the menu, you can order it anyway, 24 hours. Anything, she serves it."

Hawkins gave thumbs up to the stewed chicken and dumplings ("I'm liking it!"), the pork chop ("The seasoning is perfect") and the bread pudding ("It's delicious—very sweet, with a lot of butter"). Lovett voted for the fried chicken ("Not too greasy, just really good") and the greens ("Perfectly balanced, not too sour"). Both my companions have Southern roots, although Hawkins, from Louisiana, isn't nostalgic for everything down-home: "I remember the smell of chitlins cooking in my great-grandmother's kitchen," he said. "It was horrible! I hated it! We would run out of the room."

There's a life-size cutout of Obama on the wall. He has eaten at Izola's several times and has been to White's home, too. "He's a nice young man," White volunteered. "Nice family."

I FOUND THE HOLY GRAIL—the tastiest food of the trip—when I least expected it. It was at Podhalanka, a quiet restaurant on West Division Street, a thoroughfare known as Polish Broadway—in a city that boasts the largest Polish population outside of Warsaw. Though my own Granny Ottillie was Polish-born and a wonderful cook, I had somehow gotten the impression that Polish cuisine, on the whole, was bland, greasy and heavy. Podhalanka set me straight.

J.R. Nelson lives nearby in Ukrainian Village and works

Writer **JAMIE KATZ**, *who reports on arts and culture, lives in New York City. Photographer* **BRIAN SMALE***'s home base is Seattle.*

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BRIAN SMALE; P. 81 BRIAN SMALE

THERE'S A LIFE-SIZE CUTOUT OF OBAMA ON THE WALL. HE HAS EATEN AT IZOLA'S SEVERAL TIMES AND HAS BEEN TO WHITE'S HOME, TOO. "HE'S A NICE YOUNG MAN," WHITE VOLUNTEERED. "NICE FAMILY."

at Myopic Books, a local literary landmark. He's a student of Chicago lore and a friend of my friend Jessica Hopper, a music critic and author who was born in Cole Porter's hometown of Peru, Indiana. J.R., she said, knew a great Polish place, so we all met up there. As we looked over the menu, they told me that the old neighborhood had been losing the grittiness that it had when Nelson Algren prowled the area. "Twenty years ago, it was more rough and tumble," J.R. said in an apologetic tone.

Podhalanka couldn't look plainer—lots of faux brick and linoleum, posters of Pope John Paul II and Princess Diana—and yet, as Jessica told me, "You just look in the window and it's like, obviously, I'm going to eat there."

I won't mention every dish, just the highlights: begin with the soups: shredded cabbage in a tomatoey base; barley with celery, carrots and dill; and miraculous white borscht—delicate, lemony, with thin slices of smoked sausage and pieces of hard-boiled egg somehow coaxed into a silky consistency. (This was $3.20, including the fresh rye bread and butter.) But wait, there's more.

The pièce de résistance was *zrazy wieprzowe zawijane*—rolled pork stuffed with carrots and celery—which was tender, juicy and subtly peppery. It came with boiled potato, mashed up with a perfect light gravy and topped with fresh dill. The cucumber, cabbage and beet root with horseradish salads were a fine complement, as was rose hips tea.

Helena Madej opened the restaurant in 1981, after arriving from Krakow at age 28. She told us her grandfather first came to Chicago in 1906, but returned to Poland in 1932. Madej's English is grammatically shaky, but perfectly clear.

"Everything is fresh," she said. "We cooking everything. And white borscht, this is recipe my grandma. I'm from big family, because I have four brothers and three sisters. This was hard time, after war, she don't have a lot of money. Just white borscht and bread, and give couple pieces everybody, and we go to school."

She laughed happily at the memory.

For 52 years, Izola White (below) has presided over her South Side soul-food restaurant. Retired policeman Bill Humphrey loves White's breakfasts and "the friendship, the fellowship. It's like a home away from home."

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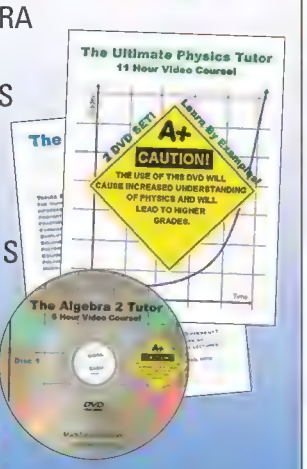
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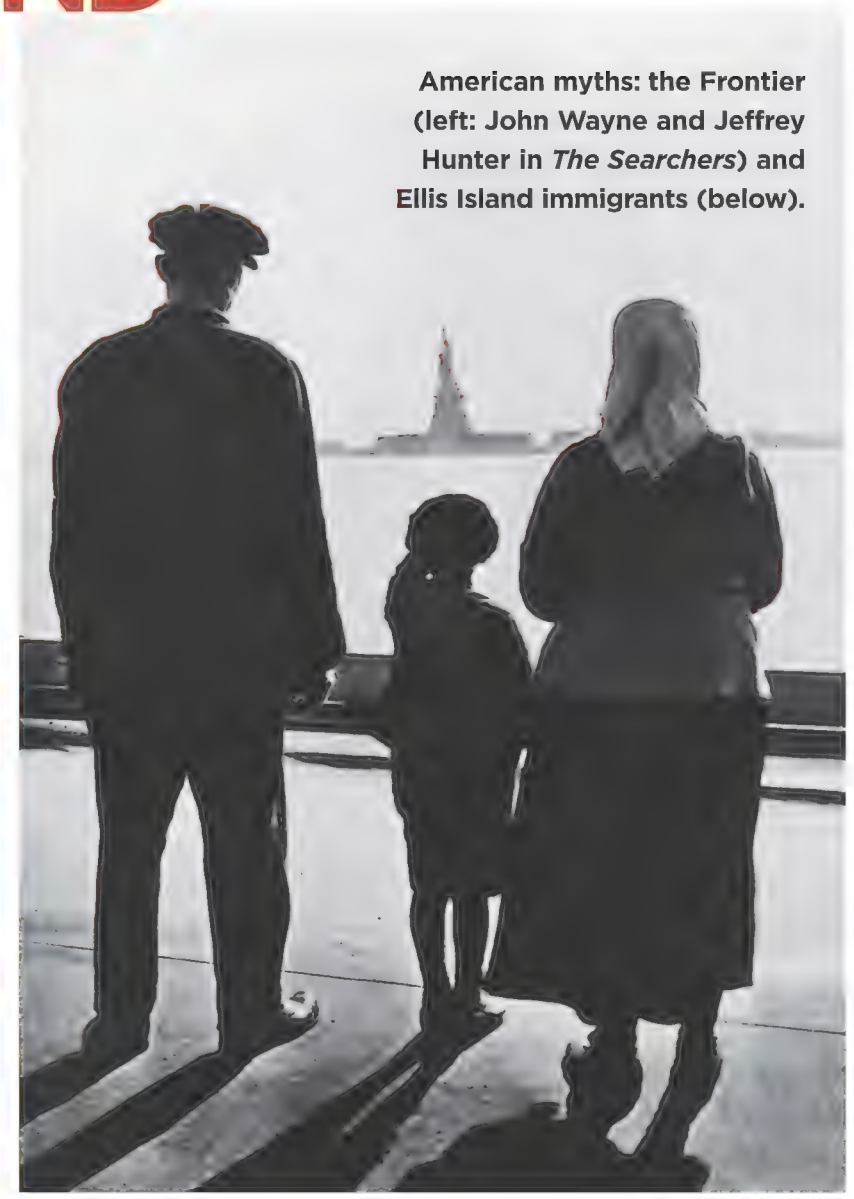

American myths: the Frontier (left: John Wayne and Jeffrey Hunter in *The Searchers*) and Ellis Island immigrants (below).

Cowboys and Immigrants

Two dueling archetypes dominated 20th-century American politics. Is it time for them to be reconciled? **BY LANCE MORROW**

AT FORT CLARK in West Texas one night in the 1870s, my great-grandmother Ella Mollen Morrow was asleep in the officers' quarters. Her husband, Maj. Albert Morrow, was several days' ride away, on patrol with his troop of Fourth U.S. Cavalry. A soldier, probably drunk, crawled into the house through a window. My great-grandmother heard him. She took up a Colt .44 revolver and warned him to get out. He kept coming at her. She warned him again. The man kept coming. She shot him—"between the eyes," as a family history said, adding, "No inquiry was held, or deemed necessary."

That was the frontier, all right, and I confess that during the presidential campaign last fall, Sarah Palin—moose hunter, wilderness mom—stirred, for a moment anyway, a genetic current of admiration in my heart. It was an atavistic memory of Ella, of her self-sufficient smoking pistol and its brisk frontier justice, which, on that night in West Texas, pre-emptively brought the bad guy down, dead at her feet. No nonsense.

At the time, the McCain-Obama campaign seemed a clash of neat American opposites. John McCain (maverick, ex-fighter pilot, military hero, senator from Geronimo country), with his sidekick Palin (chirpy backwoods deadeye), worked the Frontier story line. Barack Obama came onstage as apotheosis, the multiracial, multicultural evolution of what Ellis Island promised to the Nation of Immigrants long ago.

But in the evolving financial shambles of the months since the election, the conflict between these mystic poles of American history appeared to vanish, or to dissolve in a chaotic nonideological synthesis. Both Ellis Island and the Frontier hated Wall Street, just as passengers in steerage and passengers in first-class unite in despising icebergs. And

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amid the great federal bailouts, *Newsweek* proclaimed, "We Are All Socialists Now."

I wonder. The Frontier and Ellis Island are myths of origin, alternate versions of the American Shinto. They're not likely to disappear anytime soon.

THE TWO MYTHS are sentimental and symbolic categories, no doubt—ideas or mere attitudes more than facts: facets of human nature. (Quite often, when given a hard look, myths fall apart: the historical frontier, for example, was demonstrably communitarian as well as individualist). But like the philosopher Isaiah Berlin's Hedgehog and Fox or literary critic Philip Rahv's Paleface and Redskin, they offer convenient bins in which to sort out tendencies.

Both myths owe something of their vividness to Hollywood—one to the films of John Ford and John Wayne, for example, and the other to Frank Capra's parables of the common man. The Frontier is set on the spacious Western side of American memory—a terrain whose official masculinity made my great-grandmother's, and Palin's, Annie Oakley autonomies seem somehow bracing. On the other side (diverse, bubbling away in the "melting pot," vaguely feminine in some *gemütlich* nurturing sense) lies Ellis Island. If Frontier dramas call for big skies, open space and freedom, Ellis Island's enact themselves in cities; their emphasis is human, sympathetic, multilingual and noisy, alive with distinctive cooking smells and old-country customs. The Frontier is big, open-ended, physically demanding, silent.

This bifurcation of American consciousness occurred with a certain chronological neatness—a development "unforeseen, though not accidental," as Trotsky might have said, working his eyebrows. Ellis Island opened for business in 1892 as the gateway for the first of some 12 million immigrants. One year later, the historian Frederick Jackson Turner delivered his "frontier thesis" before the American Historical Society at the World's

Columbian Exposition in Chicago. When the Pacific Ocean halted the American frontier on the West Coast, Turner argued, the distinctive urgencies of American destiny closed down. But at just that moment, the East Coast opened up to a powerful flow of new immigrant energies.

In the years 1889-96, the gun-toting ranchman-intellectual Theodore Roosevelt published his four-volume history, *The Winning of the West*. The evolution of the Frontier mythology was in some ways an instinctive reaction against all those foreigners. Ellis Island made the Frontier feel claustrophobic, just as the arrival of sodbusters with their plows and fences would incense the free-range cattle people.

Starting with Teddy Roosevelt, these two American archetypes have reappeared from time to time as presidential styles and ideological motifs. T.R., the sickly New York City boy who repaired health and heart in the Dakota Badlands, was the first modern Frontier president.

AP IMAGES

Theodore Roosevelt (in 1885) was city-born, but he typified the Frontier spirit.

His dramatization of Frontier attitude occurred at the moment of the Spanish-American War, of Senator Albert Beveridge's triumphal jingo about "The March of the Flag." In 1899, sixteen of Teddy's Rough Riders joined Buffalo Bill Cody's touring Wild West show. Gaudy Wild Bill in fringed buckskins told an audience at the Trans-Mississippi Exposition in Omaha: "The whistle of the locomotive has drowned the howl of the coyote; the barb-wire fence has narrowed the range of the cow-puncher; but no material evidence of prosperity can obliterate our contribution to Nebraska's imperial progress." Imperial Nebraska! When the Frontier grew grandiloquent, it sounded like a passage of Ned Buntline as recited by W. C. Fields.

But in Frontier rhetoric there was often a paradoxical note of elegy and loss, as if the toughest place and moment of the American story was also the most transient, most fragile. By 1918, the Old Bull Moose, reconciled to the Republican Party, was condemning the "social system . . . of every man for himself" and calling for worker's rights, public housing and day care for the children of mothers working in factories. In nine months, he was dead.

The other Roosevelt, T.R.'s cousin

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Franklin, became the first Ellis Island president. He came to office not at a moment when America had seemed to triumph, but when it had seemed to fail. In myth, if not in fact, the Frontier sounded the bugle—cavalry to the rescue. Ellis Island's narrative began with Emma Lazarus' disconcerting, hardly welcoming phrases of abjection—"your tired, your poor . . . the wretched refuse . . . " Its soundtrack was the street sounds of the *pluribus*.

John Kennedy—by way of Choate, Harvard and his father's money—claimed to be working a "New Frontier," and though he campaigned as a cold warrior in 1960, he did break new ground with the Peace Corps and the space program and his American University speech on nuclear disarmament. But in memory the New Frontier seems mostly to refer to a generational takeover, more a Sorensen trope in the service of generational ambition than a true departure.

One of the things that made Lyndon Johnson interesting was that he so thoroughly embodied both the Frontier and Ellis Island—and tried to enact both, in the Great Society and in Vietnam. Perhaps it was the conflict between the two ideals that brought him down. A son of the Texas hill country, with its lingering folklore of the Alamo and of long-ago massacres under the Comanche moon, Johnson was also a New Deal Democrat and FDR protégé with all the activist-government Ellis Island instincts. In an interplay of Ellis and the Frontier, he actually tried to bomb Ho Chi Minh into submission while offering to turn Vietnam into a Great Society, full of New Deal projects (dams and bridges and electrification), if only Uncle Ho would listen to reason.

At the Democratic National Convention in 1984, the perfect Ellis Island man, Gov. Mario Cuomo of New York, conjured up a sweet America that originated in sepia photographs of ships arriving in New York Harbor, the vessels' rails crowded with the yearning faces of people from a dozen countries over there, at the instant of their rebirth, their entry into the American alchemy

that would transform them and their children forever. "We speak for the minorities who have not yet entered the mainstream," this son of Italian immigrants proclaimed. "We speak for ethnics who want to add their culture to the magnificent mosaic that is America." He called up Ellis Island that summer of 1984 at the same moment Ronald Reagan of California convinced

Patrician Franklin D. Roosevelt (in 1932) became an Ellis Island kind of president.

Americans that they were tall in the saddle again, riding into the sunshine of a new morning in America. The Frontier won that round, by a landslide.

Reagan personified the cowboy universe that sees itself as self-reliant, competent, freedom-loving, morally autonomous, responsible. He owned a ranch and wore cowboy clothes, and in the Oval Office he displayed a passel of sculptures of cowboys and Indians and bucking broncos. In Reagan's exercise room in the family quarters of the White House, his wife, Nancy, had hung a favorite Reagan self-image, a framed photograph showing him in bluejeans and work shirt and shield-size belt buckle and a well-aged, handsomely crushed white cowboy hat: Reagan's eyes crinkle at the far horizon. The photo watched from the wall as President Reagan pumped iron.

George W. Bush put himself in the

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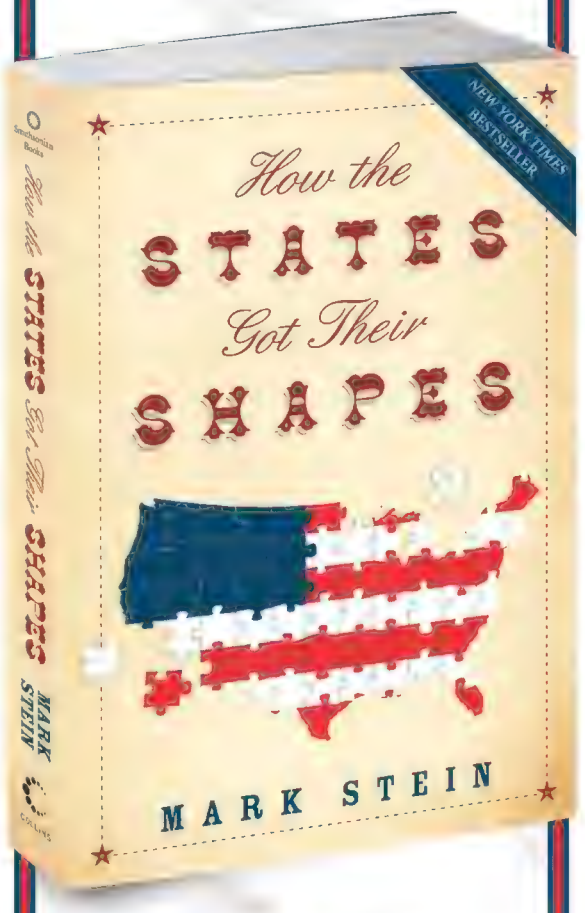

Packed with fun oddities and trivia, this entertaining guide tells the stories behind the puzzle pieces, right down to the tiny northward jog at the eastern end of Tennessee and the teeny-tiny bits of Delaware that are actually part of New Jersey.

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Reagan mold. Barack Obama's victory represented, among other things, a repudiation of the Frontier style of Bush and Dick Cheney, in favor of an agenda arising from the Ellis Island point of view, with its emphasis on collective social interests, such as health care and the environment. A civic paradigm seemed to have shifted, and a generational paradigm as well.

And yet the future (Obama's hopeful young constituency) found itself boomeranged back to the Great Depression. The simultaneous arrival of Obama and bad financial times elicited perhaps too many articles about Franklin Roosevelt and the New Deal. Implicitly, George W. Bush and the Frontier way of doing things seem as discredited today as Herbert Hoover seemed in 1933.

Newsweek's proclamation notwithstanding, my guess is that the categories of Ellis Island and the Frontier persist—but now, like so much else, have been globalized.

IN THE 21ST CENTURY, the division between the two mind-sets projects itself into McLuhan's misnamed "global village," which, more accurately, has become a planetary megacity with some wealthy neighborhoods (now not as wealthy as they thought they were) and vast slum districts—a megacity without police force or sanitation department. The messy municipal planet remains in many ways a frontier, a multicultural Dodge City or Tombstone (lawless, with shooting in the streets, dangerous with terrorism and nuclear possibilities, not a fit place for women and children) that has an Ellis Island aspiration to survive and prosper as the family of man.

The Frontier and Ellis Island analyze problems in different ways and arrive at different decisions. The Frontier assumes the drunken soldier is a rapist or murderer and shoots him between the eyes. Ellis Island may see him as a confused fool and hope to talk him into a cup of coffee and a 12-step program. Roughly the same choices present themselves to a president: the planet is

Clockwise from top left: Caño Negro Wildlife Refuge; Tortuguero Park Canal Cruise; Howler Monkey; Keel Billed Toucan; Manuel Antonio Park; Rainforest Hike

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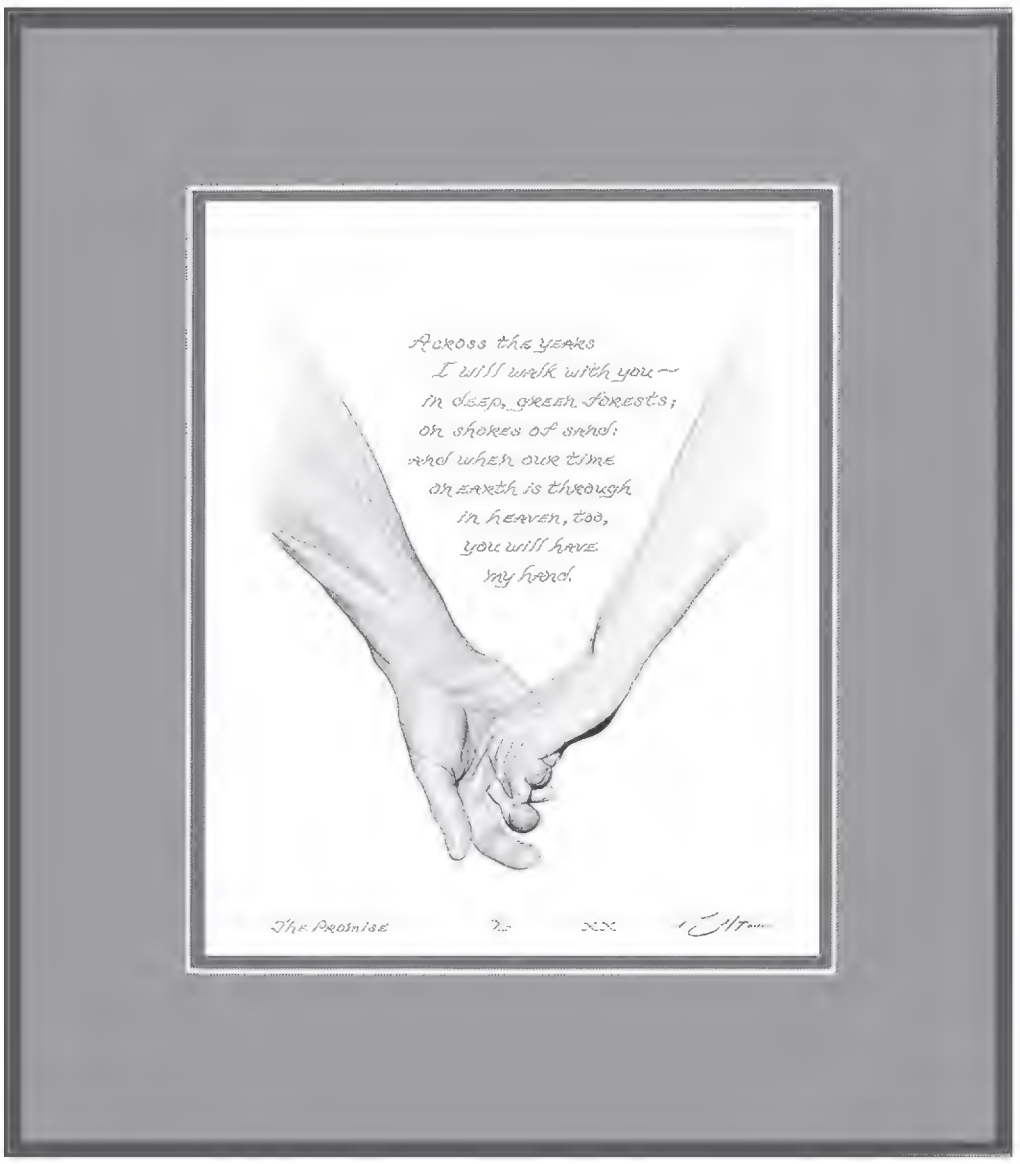

The poem reads: *"Across the years I will walk with you -*
in deep green forests; on shores of sand:
and when our time on earth is through,
in heaven, too, you will have my hand."

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the Frontier; the planet is Ellis Island. Genius is the ability to hold two contradictory truths in the mind at the same time without going crazy.

Obama might reflect upon the transition of Harry Hopkins, FDR's inside man and chief federal relief dispenser during the New Deal. Hopkins was the most abundantly generous of Keynesian do-something-now bleeding hearts,

Lyndon B. Johnson (in 1964) tried to express both ideals—to his detriment.

with a heart as big as Charles Dickens'. After Hitler took Poland and France and started bombing London, Hopkins became one of Roosevelt's most aggressive and efficient war facilitators, organizing lend-lease and acting as FDR's emissary to Churchill and Stalin. Hopkins abandoned Ellis Island for the Frontier. He complained that his New Deal friends—during the Battle of Britain, before Pearl Harbor—did not understand the change that had come over him.

Hopkins was, of course, the implementing instrument and executive echo of Franklin Roosevelt, an Ellis Island president who, after December 7, 1941, found himself confronting history's wildest frontier.

LANCE MORROW, *author of* The Best Year of Their Lives *(2005), is writing a biography of Henry Luce.*

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WARNING: IS YOUR MEMORY FADING?

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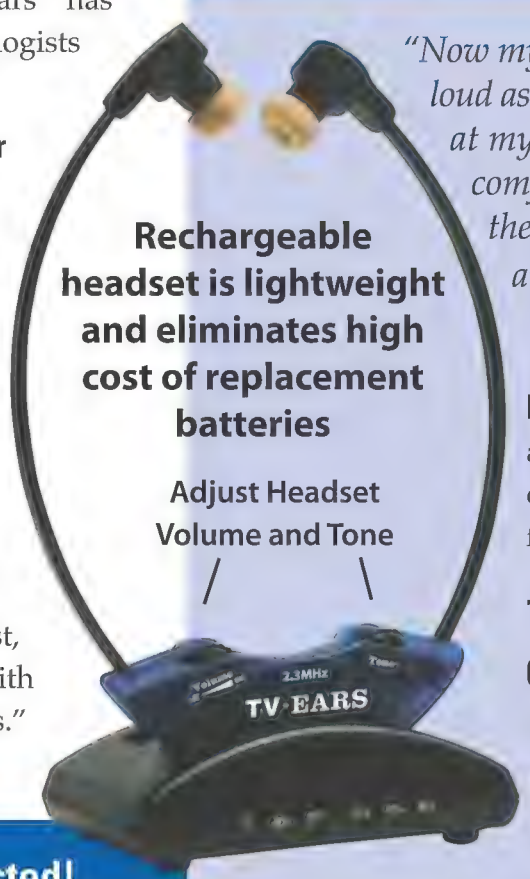
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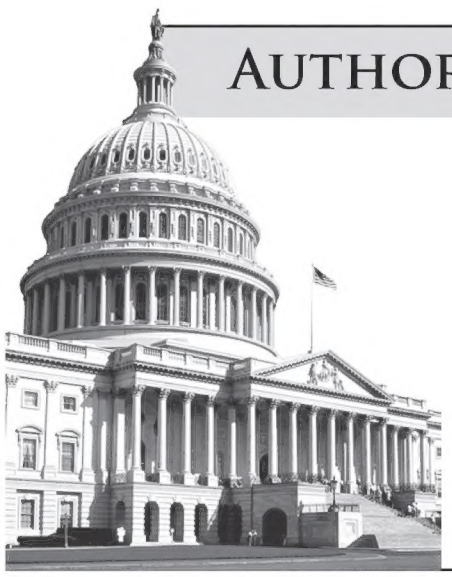

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Honorable Mentions

Near Misses in the Genius Department

BY YONI BRENNER

THE MACARTHUR "GENIUS" GRANT is awarded annually to between 20 and 30 talented individuals from a variety of fields who have demonstrated "extraordinary originality and dedication" in their work. Herewith a brief look at a few of the brilliant minds who just missed this year's cut:

NEILL GOLDBERGER HISTORIAN
Upending the academic establishment with the revolutionary premise that history cannot be understood as a linear narrative or a recurring loop, but rather as a large, multicolored rhombus. Best known for his controversial theory that Eleanor Roosevelt and Charles de Gaulle were in fact the same person.

MARIMBA JONES PLAYWRIGHT
Quietly revolutionizing the theater community with her exploration of concepts of plagiarism in modern drama. Notable works include *Pigmalion*, *BacMeth*, *The Iceman En Route* and *There She Goes Again*—a word-for-word retelling of *The Glass Menagerie* in lowercase letters.

VICTOR BLADINOVSKY COMPOSER
Defying conventions of classical music by sacrificing traditional notions of structure and lyricism for ever-increasing volume. Best known for the 12-minute air horn chorale at the end of his *NASCAR Sonata* and the exquisite but rarely performed *Fantasie for Strings and Industrial Wood Chipper (Op. 433)*.

ARTHUR GREXBY GEOLOGIST
Transforming the field of seismology with a reconfigured Richter scale that awards points not just for magnitude but also for artistic merit. A fiercely independent thinker, he is believed to be the first major geologist to refute the existence of the Himalayas—a claim later retracted when he realized that two pages of his atlas were stuck together.

STAN LINDBERG EXPERIMENTAL CHEMIST
Forging new frontiers in chemistry as he seeks to be the first man to consume every single element of the periodic table. In addition to holding the North American record for mercury poisoning, his gonzo account of a three-week ytterbium bender in the December 2001 issue of *Science* ("Fear and Loathing in the Lanthanides") has become a minor classic.

CAROL SHAPIRO LITERARY CRITIC
Adjunct professor of English at the University of East Montana, Shapiro has devoted her career to championing the obscure Irish novelist Percy O'Hanlon, whose difficult, melancholy prose might otherwise have gone completely neglected.

PERCY O'HANLON NOVELIST
Obscure Irish novelist who has devoted his career to writing impenetrable, melancholy prose solely for the benefit of literary critic Carol Shapiro, who, O'Hanlon believes, would be totally bereft and possibly dangerous were he to stop.

OPHELIA SCHMIDT ASEXOLOGIST
Widely known as the "Alfred Kinsey of prokaryotes," Schmidt has applied the accumulated wisdom of three decades in traditional sex therapy to the widespread but largely unexplored reproductive dysfunctions of single-celled organisms. With little more than an electron microscope and rigorous Jungian technique, she has diagnosed over 400 previously unknown asexual disorders from "flagella envy" to "premature cytokinesis." Her self-published manifesto, *The Chromo Sutra*, has sold three copies.

YONI BRENNER *is a screenwriter and contributes humor to the* New Yorker, *the* New York Times *and the* New Republic.

ERIC PALMA